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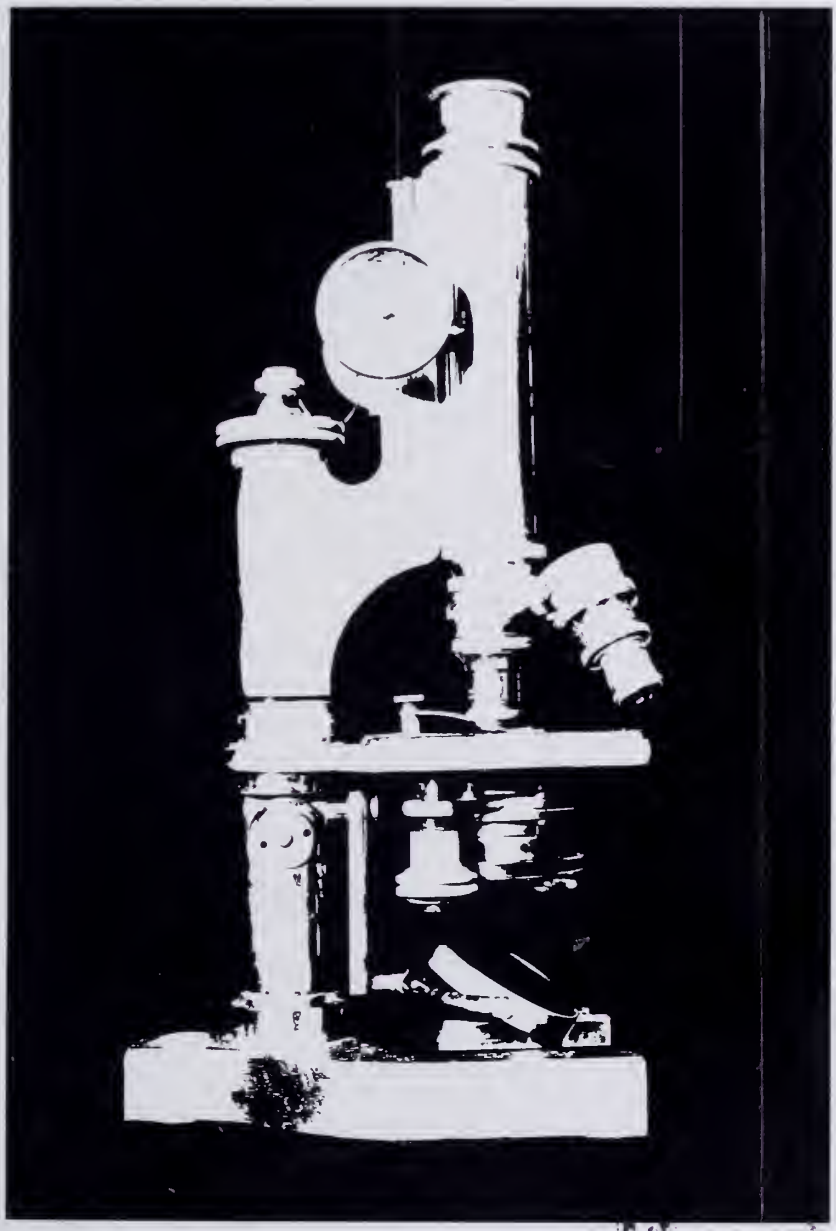
OKLAHOMA STATE MEDICAL ASSOCIATION
JANUARY 1996



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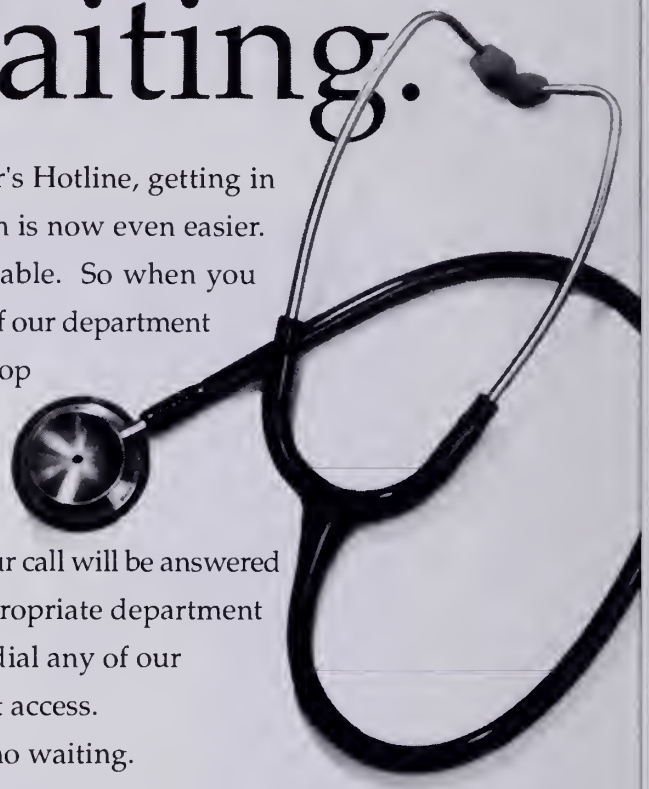

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JANUARY 1996 VOL. 89, NO. 1

EDITORIAL

On the Editorial Policy of the Journal 3
R.V. McINTYRE, KINGFISHER

PRESIDENT'S PAGE

Moral Crisis 5
L.L. LONG, OKLAHOMA CITY

SCIENTIFIC

Treatment of Acute Migraine with Sumatriptan—Response in 40 Consecutive Patients 7
H.J. BLUMENTHAL, M.A. WEISZ, S. BURK; TULSA

Laser Assisted Disc Decompression: An Alternative Treatment Modality in the Medicare Population 11
G.D. CASPER, V.L. HARTMAN, L.L. MULLINS; OKLAHOMA CITY

Surgical Treatment of Cancer of the Pancreas in Large Community Hospitals 16
R. YOLMANS, J.M. McGEE, J. LEE, K. MALNAR, C. BELLEFEUILLE, BETTY BERRY; TULSA

Cardiac Transplantation in Patients Aged 60 Years or Older 22
L. MISCHKE, S. SISSON, D.K.C. COOPER, N. ZUHDI; OKLAHOMA CITY

NEWS

Federation restructuring reflects changing medical environment, 27... AMA House adopts two Oklahoma resolutions, 27... Risk of "Little League Elbow" can be reduced, 28... Certified athletic trainers discuss best type of ankle support, 28

DEPARTMENTS

Health Department, 30... Letters, 30... Deaths, 31... In Memoriam, 32... Classifieds, 32... Instructions for Authors, 38... Alliance, 39... The Last Word, 40

ABOUT THE COVER

Manufactured in 1898, this Bausch and Lomb microscope was used by George S. Brown, MD, in his general practice of medicine in Edina, Mo. It was inherited in either 1930 or 1932 by his nephew, Ralph A. Smith, a medical student at the time, who used it in his general practice for some 30 years, until 1961. When he retired in 1982, the instrument was taken from storage and given to his son, Dr. Robert M. Smith of Oklahoma City.

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On the Editorial Policy of the Journal

The Constitution and Bylaws of the Oklahoma State Medical Association state, in part: "The Editorial Board shall determine the editorial policies of the JOURNAL under the supervision of the Board of Trustees." This commandment has consistently produced a JOURNAL with an excellent reputation, even though these policies have never been written in ink. Rather, the editing of the JOURNAL has been done through an oral tradition derived from prior editors, many Editorial Board meetings, the input of trained journalists, and AMA publications on editorial standards.

However, there have lately arisen disagreements among OSMA officers that have spread to impingements on the editorial process in the production of the JOURNAL.

Now, in order for the general members of OSMA to have a sense of reliability in the JOURNAL, it becomes necessary to publicize the essential elements of the previously unwritten editorial policies. The following set of ideas is what we have thought the editorial policies of the JOURNAL to be:

> The principle purpose of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION is to publish worthy scientific articles of interest to the physicians of Oklahoma. The JOURNAL may also publish articles discussing topical medical issues, and news of Association and Auxilian activities. The JOURNAL may provide a forum in print for members of the Association to express opinions on matters of interest to the physicians of Oklahoma.
>
> In order for the readers of the JOURNAL to receive reliable, unbiased, and objective information, all scientific and controversial articles are peer-reviewed before publication; viewpoint articles will be presented as the personal opinions of the author(s) and all viewpoints will be treated equally; and partisan politics, sectarian religion, and personal publicity promotions are shunned. All manuscripts are screened for libelous or inflammatory rhetoric. All advertising is screened for truth and good taste. The American Medical Association's published editorial guidelines and the AMA Principles of Medical Ethics are used as standards.
>
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>
> The Association and Board of Trustees will vest in the Editor-in-Chief the duty and responsibility to administer the Editorial Policies of the JOURNAL, and the Editor-in-Chief, with the advice and aid of the Editorial Board and the Managing Editor, shall determine the content, layout, and composition of each issue of the JOURNAL. Any future editorial policy changes shall be effected only after prior written notification of the Editorial Board and the Editor-in-Chief.

"The Editorial Board shall determine the editorial policies of the JOURNAL..."

We fervently hope that disagreements among OSMA officers have been resolved and never recur. But regardless of the human frailties of OSMA of officers and members, the health of the Association requires that the editing of the JOURNAL be insulated from the effects of quarreling.

The present Editor-in-Chief believes the JOURNAL should be an ombudsman for the general member of the OSMA. The pages of the JOURNAL should be available for OSMA members to offer pertinent, non-libelous, constructive criticism of OSMA activities and policies.

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Moral Crisis

At the recent Interim Meeting of the American Medical Association, we had the privilege of having Joseph Cardinal Bernadin, Archdiocese Chicago, address the House of Delegates. In his address, Cardinal Bernadin addressed what he perceived to be the moral and ethical crisis in medicine. I would like to share with you some of the critical thoughts from that presentation.

Cardinal Bernadin suggested that medicine, like any other profession, does not exist in a vacuum. He said that the upheavals of our society over the past thirty years have left a significant imprint on medicine and the organization of medicine. His list of such upheavals included the shift from family and community to the individual as the primary unit of society, an overemphasis on individual self-interest to the neglect of the common good, the loss of a sense of personal responsibility, and the unseemly flight to the refuge of "victimhood," the loss of confidence in established institutions, the decline in religious faith, the commercialization of our national existence, and the growing reliance on the legal system to redress personal conflicts.

In addition to societal changes, Cardinal Bernadin suggested that there are causes specific to the medical enterprise that contribute to medicine's disconnection from its underlying moral foundation. He suggests that advances in medical science and technology have improved the prospect of cure, but have de-emphasized medicine's traditional caring function. He listed other contributors as the commercialization of medical practice, the growing preoccupation of some physicians with monetary concerns, and the loss of a sense of humility and humanity by certain practitioners. Cardinal Bernadin laments the fact that physicians have too often succumbed to the siren songs, to the scientific triumph, financial success, and political power. In the process, medicine has grown increasingly mechanistic, commercial, and soulless. The age-old covenants between doctors and patients, between the profession and society have been ignored or violated.

If the present predicament is the product of choices, Cardinal Bernadin contends then it is possible to choose to change it. The change that Cardinal Bernadin has in mind is a renewing of the covenant with patients and society. He states that the covenant is grounded in the moral obligations that arise from the nature of the doctor/patient relationship. They are moral obligations, because they are based on the fundamental concepts of right and wrong.

Cardinal Bernadin lists four key aspects of medicine that give it a moral status and establish a covenant relationship:

First, the reliance of the patient on the doctor. Illness compels a patient to place his or her faith in the hands of a doctor. A patient relies not only on the technical competence of a doctor, but also on his or her moral compass as a doctor's commitment to put the interest of the patient first.

Second, the holistic character of medical decisions. A physician is a scientist and clinician, but as a doctor is and must be more. A doctor is and must be a caretaker of the patient's person.

Third, the social investment in medicine. Medical science has succeeded because of the faith of people in medicine and in doctors. This creates a social debt and is the basis of medicine's call—its vocation—to serve the common good.

Fourth, the personal commitments of doctors. He suggests that the relationship with the patient creates an immediate personal and non-transferable fiduciary responsibility to protect that patient's best interest.

Cardinal Bernadin contends that this moral center of the doctor-patient relationship is the very essence of being a doctor. He says that it also defines the outlines of the covenant that exists between physicians and their patients, their profession and their society. The covenant, he goes on, is a promise that the profession makes a solemn promise—that it is and will remain true to its moral center.

In closing, Cardinal Bernadin suggested that physicians are the closest to the pressing issues of today in our nation and in our world. He says that in the end, our choices will determine our course as a nation and community. Recommitting ourselves to medicine's inherent moral center will give us the strength and wisdom to renew the covenant and provide the leadership that our patients, our profession, and our nation need and expect from us.

The profession makes a solemn promise—that it is and will remain true to its moral center.

Larry Long

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Treatment of Acute Migraine with Sumatriptan—Response in 40 Consecutive Patients

Harvey J. Blumenthal, MD; Michael A. Weisz, MD; Scott Burk, MD

Forty consecutive headache patients self-administered sumatriptan for migraine, diagnosed by the criteria of the International Headache Society (IHS). Eighty percent reported excellent response. Thirty-three percent had recurrence of headache within four to twelve hours, while 67% had no recurrence. Fifty-five percent of the patients reported mild side effects, but only 8% stopped therapy because of adverse reactions. No serious cardiovascular events occurred. Recommendations for safe use of sumatriptan are suggested.

Sumatriptan, a serotonin-agonist, was introduced in the United States in 1993 for treatment of acute migraine attacks. One of us (HJB) was a clinical investigator in the multicenter double blind placebo-controlled studies which found 76% efficacy in the treatment of acute migraine headache.[1] However, pre-marketing investigational studies may choose a specific group of patients which differs from those who come to a clinical practice for treatment of headache. In an effort to evaluate this, a consecutive group of forty patients from a private neurology and headache practice and also a university internal medicine practice received sumatriptan for self-administration. We evaluated time of onset of action, degree of headache relief, recurrence of headache, and side effects.

Method

Forty consecutive patients who self-administered sumatriptan are reported. All patients suffered from migraine with aura or migraine without aura, as defined by the International Headache Society.[2] Some of the patients also suffered from tension-type headaches but they were instructed to use sumatriptan only for the migraine (Table 1). Each patient was instructed in self-injection of sumatriptan 6 mg subcutaneously by an experienced headache nurse, and most patients also viewed commercially available video instruction tapes. Patients were advised about common side effects. The patients graded their headache intensity by ability to continue their activity (Table 2). Degree of headache relief was assessed (Table 3). The patients listed side effects (Table 4) and their global response to treatment (Table 5). Patients with

Table 1. Headache Diagnosis

Migraine with aura	20%
Migraine without aura	75%
Episodic tension-type headache	15%
Chronic tension-type headache	10%
Post-traumatic headache	3%
Chronic daily headache	3%
Analgesic rebound headache	8%

(Total > 100% due to patients with mixed-headache disorders.)

From the Department of Internal Medicine, The University of Oklahoma College of Medicine–Tulsa, and Neurological Associates, Inc., Tulsa, Oklahoma. This study was completed without pharmaceutical support.
Direct correspondence to Michael A. Weisz, MD, Department of Internal Medicine, University of Oklahoma College of Medicine–Tulsa, 2808 South Sheridan Road, Tulsa, OK 74129-1077.

risk factors for coronary artery disease were screened, and some self-administered the first dose of sumatriptan under medical supervision.

Demographics

All of these patients had previously used oral symptomatic and/or oral abortive agents without success. These included Midrin®; combination of barbiturate, caffeine, and analgesic; non-steroidal anti-inflammatories; oral narcotic preparations; and ergot preparations. Twenty-eight patients (70%) were taking preventive medication (Tables 1, 2, and 6).

Table 2. Intensity of Average Headache

Intensity Level	Number of Patients
I — Able to continue activity	4
II — Unable to continue activity	2
III — Unable to continue activity: must go to bed, sleep	34

Table 3. Headache Relief with Sumatriptan Therapy

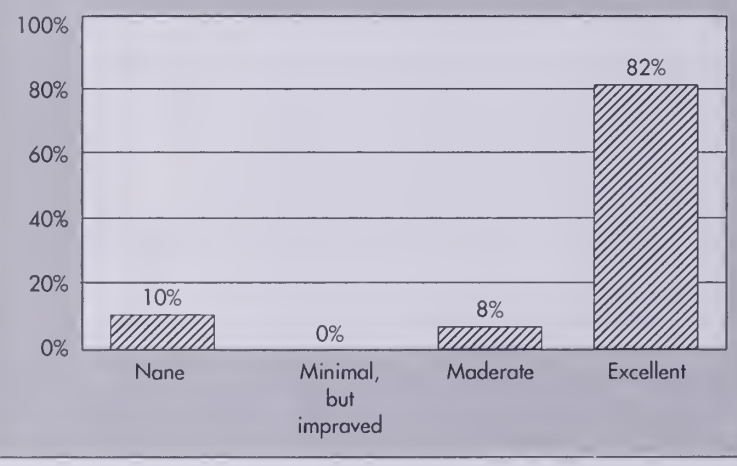


Table 4. Side Effects

None	45%
Neck tightness	25%
Chest tightness	13%
Flushing	8%
Pain at injection site	8%
Nausea	8%
Generalized tingling	8%
Increase in headache	5%
Left arm pain	3%
Scalp burning	3%

(Total > 100% due to some patients having more than one side-effect.)

Results

1. Headache relief (Table 3). Only 10% of patients obtained no relief with sumatriptan whereas 80% reported excellent relief.

2. Time to relief. The average time from injection until relief of headache was 30 minutes, and ranged from 5 minutes to 2 hours.

3. Recurrence of headaches. Four of the patients had no improvement (i.e., headache recurrence not applicable). Of the remaining 36 patients, 24 had no recurrence of headache after sumatriptan. Twelve patients experienced recurrence of headache 4 to 12 hours after initial headache relief. These patients reported variable reoccurrence rates, ranging from 10% of the time to 100% of the time after initial relief. Most obtained complete and lasting relief after a second dose of sumatriptan.

4. Side effects (Tables 4 and 7). Fifty-five percent of our patients reported side effects, but these were mild and only 8% stopped drug therapy because of side effects. The most common side effect was neck tightness. Some experienced chest tightness, raising concern for potential cardiovascular cause, and possible risk for myocardial injury. No adverse cardiovascular effects were found in any of our patients, and these side effects were very similar to those found in the pre-marketing clinical investigations.

Discussion

Recent investigations of brain physiology and pharmacologic reactions have led to the belief that migraine results from a transient disturbance of serotonin (5-hydroxytryptamine, 5-HT) transmitter function. Whether the primary defect resides in blood vessel responses or in perturbation of pain-sensitive neurons in the brain stem raphe nuclei remains uncertain. However, the evidence is indisputable that 5-HT neurotransmitters and 5-HT receptors have a pivotal function in migraine.[3,4]

There are several "families" of 5-HT receptors in the blood vessels and brain. Within the main families, specific sub-types have been identified. These different receptor sub-types have distinctly different functions. It has been demonstrated that migraine prophylaxis can be achieved by drugs which have antagonist activity at the 5-HT_2 receptor, and relief from an acute migraine attack is obtained by agonist or stimulation activity at the 5-HT_{1D} and/or 5-K_{1A} receptors.[5]

Many drugs which are useful in treatment of acute migraine headache actually react at several 5-HT receptors; however, sumatriptan has a

specific affinity for the 5-HT_{1D} receptor. Sumatriptan binds almost exclusively to the 5-HT_{1D} receptor and has agonist properties at this receptor.[5]

Our patients' excellent response of rapid and complete relief from acute migraine headache with sumatriptan is almost identical to previous reports[1,6-8]; however, most of these studies were tightly controlled and limited to patients who met strict criteria and may not be representative of headache patients seen in clinical practice. Patients in those early investigations had migraine, but patients who also had tension-type headaches were excluded. Our consecutive patient group was unselected and more typically represented a private practice. Forty percent of our patients also suffered from tension-type headaches.

Sheftell et al reported on their first one hundred patients treated with sumatriptan at a tertiary headache center and obtained results nearly identical to ours.[9] Sheftell's study also included patients who experienced tension-type headaches and other types of headache in addition to migraine. Their patients, like ours, were specifically instructed to self-administer sumatriptan for migraine only. The Sheftell study drew patients from a tertiary headache center and, not unexpectedly, included a large number of patients suffering from chronic daily headache (56%) and analgesic rebound headaches (28%). Only 11% of our patients had chronic daily headache and/or analgesic rebound headaches.

It is clear that patients with mixed headache disorders can obtain relief from the specific migraine headache with sumatriptan. Another 5-HT agonist, DHE-45, is very helpful in breaking the cycle of analgesic rebound and chronic daily headaches,[10,11] and future work may show sumatriptan can also help these disorders.

The most worrisome side effect with sumatriptan is a sense of chest pressure, heaviness, or neck tightness, which can mimic cardiac ischemia. In the large international study group of sumatriptan, these symptoms were reported in 12% of patients,[6] while 13% of our patients reported chest pressure. Extensive investigation of this phenomenon found normal EKG and cardiac enzymes in the vast majority of study patients. However, there are rare reports of patients who have suffered severe cardiac events immediately after receiving subcutaneous sumatriptan.[12-18]

Despite its putative specificity for brain 5-HT_{1D} receptors, sumatriptan has been demonstrated to cause up to 17% reduction of coronary artery diameter in ten patients with suspected coronary artery disease.[18]

A recent report of cardiac arrest following use of sumatriptan in a 35-year-old woman with unsuspected heart disease underscores the importance of obtaining a complete medical and family history to assess migraine patients for cardiovascular risk factors.[17]

There is evidence that the chest tightness asso-

Table 5. Global Response to Treatment

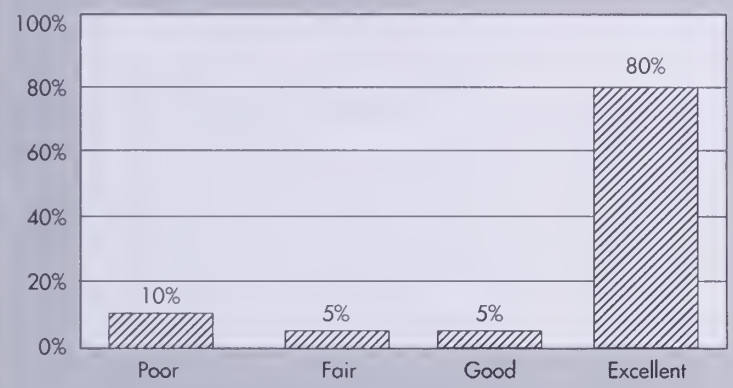
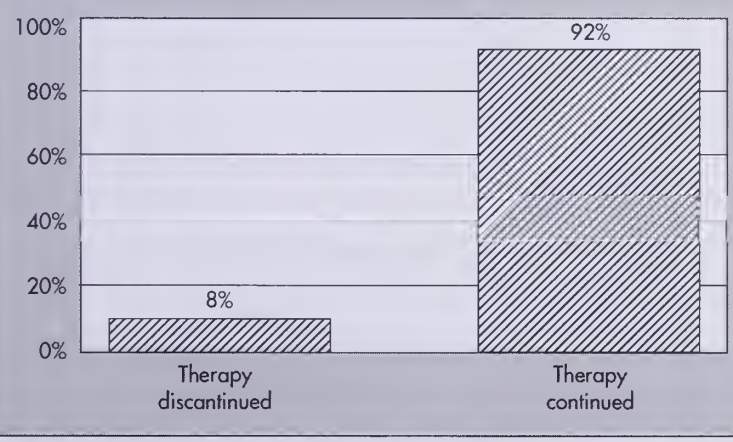


Table 6. Demographics

	Mean	Range
Age (year)		
Male (n=4)	39.1	14-59
Female (n=36)	32.5	17-41
Age at headache onset	21 years	5-52 years
Average headache duration without abortive therapy	40 hours	2-84 hours

Table 7. Effect of Side Effects on Treatment Continuation



ciated with sumatriptan may be due to increased amplitude and duration of esophageal contractions.[19]

We believe sumatriptan is a safe and very effective treatment for acute migraine attacks, but make the following recommendations: Sumatriptan should not be used in patients with potential for undiagnosed coronary artery disease without thorough evaluation and due consideration of alternative treatments. Such patients include men over 40, postmenopausal women, patients who smoke, and those with hypertension, diabetes, obesity, hypercholesterolemia, and family history of heart disease, especially at a young age.

Conclusions

1. In forty consecutive unselected migraine patients, sumatriptan provided effective treatment for acute migraine headache in 90%.

2. Mild side effects occurred in 50% of the study population; however, only 8% of patients stopped treatment because of side effects.

3. Thirty-three percent of patients had reoccurrence of headache within 24 hours, concordant with previous reports.

4. Rarely, patients with unsuspected coronary artery disease may experience coronary vasospasm with serious life-threatening cardiac events.

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References

1. Cady R, Wendt J, Kirchner J, Sargent J, Rothrock J, Skaggs H Jr. Treatment of acute migraine with subcutaneous sumatriptan. *JAMA*. 1991;265:2831-2835.
2. Headache Classification Committee of the International Headache Society. Classification and diagnostic criteria for headache disorders, cranial neuralgias and facial pain. *Cephalalgia*. 1988;8:(suppl 7):19-28.
3. Lance J. 5-Hydroxytryptamine and its role in migraine. *Eur Neurol* 1991;31:279-281.
4. Peroutka S. The pharmacology of current anti-migraine drugs. *Headache*. 1990;30:(suppl 1):5-11.
5. Peroutka S, McCarthy B. Sumatriptan (GR43175) interacts selectively with 5-HT_{1B} and 5-HT_{1D} binding sites. *Eur J Pharmacol* 1989;163:133-136.
6. The Subcutaneous Sumatriptan International Study Group. Treatment of migraine with sumatriptan. *N Engl J Med* 1991;325:316-321.
7. Mathew N, Dexter J, Couch J, Flamenbaum W, Goldstein J, Rapoport A, Sheftell F, Saper J, Silberstein S, Solomon S, Welch K. Dose ranging efficacy and safety of subcutaneous sumatriptan in the acute treatment of migraine. *Arch Neurol* 1992;49:1271-1276.
8. Cady R, Dexter J, Sargent J, Markley H, Osterhaus J, Webster C. Efficacy of subcutaneous sumatriptan in repeated episodes of migraine. *Neurology* 1993;43:1363-1368.
9. Sheftell F, Weeks R, Rapoport A, Siegel S, Baskin S, Arrowsmith F. Subcutaneous sumatriptan in a clinical setting: the first 100 consecutive patients with acute migraine in a tertiary care center. *Headache* 1994;34:67-72.
10. Rapoport A, Sheftell F. Headache relief (memorandum). New York: Simon & Schuster, 1990:103.
11. Mathew N, Reuveni U. Drug-induced refractory headache: clinical features and management. *Headache* 1987;27:305-306.
12. Ottervanger J, van Witsen T, Valkenburg H, Stricker BCh. Postmarketing study of cardiovascular adverse reactions associated with sumatriptan. *BMJ* 1993;307:1185.
13. Willett F, Curzen N, Adams J, Armitage M. Coronary vasospasm induced by subcutaneous sumatriptan. *BMJ* 1992;304:1415.
14. Ottervanger J, Paalman H, Boxma G, Stricker BCh. Transmural myocardial infarction with sumatriptan. *Lancet* 1993;341:861-862.
15. Curtin T, Brooks A, Roberts J. Cardiorespiratory distress after sumatriptan given by injection. *BMJ* 1992;305:713-714.
16. Stricker B. Coronary vasospasm and sumatriptan. *BMJ* 1992;305:118.
17. Kelly K. Cardiac arrest following use of sumatriptan. *Neurology* 1995;45:1211-1213.
18. MacIntyre P, Bhargava B, Hogg K, Gemmill J, Hillis W. Effect of subcutaneous sumatriptan, a selective $5HT_1$ agonist, on the systemic, pulmonary, and coronary circulation. *Circulation* 1993;87:401-405.
19. Houghton L, Foster J, et al. Is chest pain after sumatriptan esophageal in origin? *Lancet* 1994;344:985-986.

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Laser Assisted Disc Decompression: An Alternative Treatment Modality in the Medicare Population

G. David Casper, MD; Valerie L. Hartman, BA; Larry L. Mullins, PhD

The current study evaluated the efficacy of LADD within the Medicare population, and examined the influence of coexisting medical conditions and previous surgical intervention on surgical outcome. Patients who met inclusion criteria underwent laser-assisted disc decompression (LADD) using the Holmium:YAG Laser with Sidefire™ laser fiber. All patients evidenced primarily leg pain, with or without back pain, which had failed a minimum of six weeks conservative treatment. Post-operative follow-up at one year yielded a surgical success rate of 80%. Surgical outcome was not related to coexisting medical conditions or previous surgical intervention on the lumbar spine. Findings of the current study suggest that LADD offers a viable alternative treatment modality for lumbar disc disease within the Medicare population.

Elderly patients within the Medicare population, defined as individuals 65 years of age or older, are often not considered good candidates for traditional spinal procedures (e.g., open laminectomy) due to operative and post-operative complications.[1] Previous literature, however, suggests that age alone should not be a contraindication to surgical intervention.[1-3] Other factors, including coexisting medical conditions, poor aerobic capacity, and a relative decline in organ reserve and physiologic function have been shown to negatively influence the elderly patient's response to surgical intervention.[4-7] Quigley and colleagues[8] suggest that the complications inherent in the Medicare population may result in apprehension on the part of the surgeon to perform more invasive surgical procedures; thus, surgical intervention is often not a consideration.[9] Patients within the Medicare population may also be less likely to seek surgical intervention if they are aware of associated procedural risks, which may worsen their pre-operative level of physical functioning.[5-10]

Although lumbar disc herniation is more prevalent among younger and middle-aged adults, elderly patients are increasingly seeking medical intervention for pain associated with lumbar disc disease.[11] There is a paucity of research available that quantifies the rates of surgical outcome and complications following surgical intervention on the lumbar spine for patients within the Medicare population.[1] Although surgical success rates for lumbar procedures in this population range from 60% to 87%,[6,12,13] Deyo and colleagues[1] have shown the postoperative complication rate and utilization of medical resources to increase as a function of the elderly patients pathophysiological status. Such data argues for the need to evaluate less invasive, safer, and more economical surgical procedures.

Laser Assisted Disc Decompression

Laser assisted disc decompression (LADD) is a relatively new percutaneous procedure used in the treatment of nonsequestered herniated nucleus pulposus of the lumbar spine. Previous clinical trials have shown LADD to be more efficacious than alternative treatment methods in terms of both

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Positive radiographic findings of non-sequestered herniated nucleus pulposus was determined in all patients.

access to the disc space and more predictable ablation of intradiscal tissue.[14] Additional advantages of LADD include decreased patient recovery times, less morbidity, a faster return to normal activity, and lower costs. Further, LADD has less potential for perineural scarring, intraoperative blood loss, and infection.[15] LADD does not typically result in complications (e.g., epidural fibrosis, transverse myelitis, and discitis) inherent in traditional surgical procedures or other percutaneous procedures.[16] The success rates of LADD in the general population range from 55% to 85%.[14,17-19] Researchers have suggested that the variability in surgical outcome is a function of the type of laser and the associated wavelength.[20]

Due to the limited sample size utilized in previous clinical trials of LADD, few researchers have made distinctions in surgical outcome between younger and older patients. Utilizing the Nd:YAG, Choy and colleagues reported a 71% surgical success rate with a general population sample of patients and noted no differences in surgical outcome for a subsample of older patients.[17] The current study discusses the procedural specifics and evaluates the efficacy of LADD within the Medicare population utilizing the Ho:YAG laser with side-firing fiber, and examines the influence of coexisting medical conditions and prior surgical intervention on surgical outcome. Advantages of the Ho:YAG laser involve its maximum absorption in water and water-containing tissues, which lessens the likelihood of thermal damage to the vertebral endplates.[21] Further, the side-firing fiber offers more accurate ablation of tissue in contrast to the straight-firing fiber utilized by other laser systems.[22]

Methods

Patient Selection.—A sample of 31 patients aged 65 years or older were selected based upon the persistence of positive neurologic signs and symptoms compatible with nonsequestered, herniated nucleus pulposus (i.e., totally transligamenteous herniation with disc material contained within the annulus). Before physical examination and consideration for inclusion in this study, each patient was asked to complete a preoperative patient history form which addressed the onset and nature of symptoms, previous forms of treatment attempted, and other related neurologic conditions for which the patient had been treated. The preoperative patient history form also inquired about medical conditions for which the patient was currently receiving medical treatment and any previous surgical procedures they had undergone including those unrelated to their current condition. Correspondent to this form, the patient completed a diagram/illustration to indicate the specific area(s) of discomfort, type of pain (e.g., ache, numbness, pins and needles, burning, stabbing) and the radicular components of their discomfort. Based upon these complaints, plus physical examination indicating radicular leg pain with or without accompanying back pain, as well as radiographic confirmation of contained disc herniation, determination of whether the patient was a candidate for the study was made.

All patients had received a minimum of six weeks conservative treatment, including nonsteroidal anti-inflammatory drugs (N=27), physical therapy (N=16), selective nerve blocks (N=3), epidural steroids (N=2), and, in some cases, chiropractic care (N=3). No patient was considered for surgical intervention if the primary source of neurologic findings was felt to be solely due to scar tissue from a previous discectomy, lateral recess or central stenosis, or sequestered disc material (i.e., totally transligamenteous herniation with disc material separate and apart from the annulus). Patient selection was not based upon sex, employment status, duration of symptoms beyond the minimum six weeks conservative trials, or the presence of recurrent disc herniation.

Materials.—All procedures were performed using the OmniPulse Holmium:YAG Laser with the Sidefire™ laser fiber (Trimedyne, Inc., Irvine, Calif.), which contained a proprietary 550 micron diameter optical fiber.

Procedure for Laser Assisted Disc Decompression.—The patient was placed in the prone position on a radiolucent operating table with pressure points cushioned and the patient's back flexed to decrease lumbar lordosis. A C-arm fluoroscope with image intensification was used to provide images in both the anterior/posterior and lateral views to verify position of the laser. The procedure was performed under local anesthesia, utilizing marcaine and xylocaine with epinephrine, and patients were monitored by an anesthesiologist. All patients were awake and able to converse freely throughout the procedure.

A standard posterolateral approach from the side of the herniation was made, utilizing a stab wound with a #11 blade. Guidewire placement within the appropriate interspace was accomplished and the Omni™ Spinal Introduction System (Trimedyne, Inc., Irvine, Calif.) was utilized for placement of the side-firing laser fiber.

The laser parameters were 13 watts at 10 hertz, and energy was delivered until the patient's subjective response indicated complete relief of radicular pain, or approximately 2,000 joules of energy had been delivered.

Laser Technique.—The laser energy was

applied for 5 seconds on and 5 seconds off, and the laser fiber was fixed at 2, 4, 8, and 10 o'clock, producing an oval ablation zone.

Follow-up.—Evaluations were carried out by an independent interviewer via direct telephone communication, and their current status was rated based upon the modified Macnab criteria[23] (Table 1). Patients who gave an ambiguous response (e.g., between ratings of "excellent" and "good") were given a lower, more conservative rating. Macnab ratings of "excellent" and "good" were deemed surgical successes for the purposes of this study, while outcomes of "fair" and "poor" were deemed surgical failures. Also, patients requiring open laminectomy or an additional LADD at a recurrent level (i.e., index level) were classified as failures. Patients were evaluated post-operatively, and again at one week, three months, six months, and one year. Although direct interviewer-patient follow-up would have been desirable, many patients commute a considerable distance for medical follow-up by the surgeon and it would be unreasonable to request patients make additional trips for direct interviews. The telephone interview was strictly formatted, however, thus insuring standardized questioning.

Post-operatively, patients were treated on an individual basis in terms of release to full activity and need for further treatment. For all patients, it was suggested that no prolonged sitting in a straight-back chair or heavy lifting be done within the four- to six-week interval following LADD. All patients were encouraged to begin ambulation immediately and to follow a daily exercise program of continuous walking for at least twenty minutes.

Table 1. Modified Macnab Criteria

Surgical Success	
Excellent	**Good**
• Free of pain • No restriction of mobility • Able to return to normal work and activities	• Occasional non-radicular pain • Relief of presenting symptoms • Able to return to modified work
Surgical Failure	
Fair	**Poor**
• Some improved functional capacity • Still handicapped and/or unemployed	• Continued objective symptoms of root involvement • Additional operative intervention needed at the index level, irrespective of repeat or length of post-operative follow-up

Results

Patient Characteristics.—The sample consisted of 31 patients (17 males, 14 females) aged 65 years and older (M=70.9, SD=4.2). One patient was deceased at one-year follow-up; therefore, due to subsequent missing data, this patient was excluded from all analyses pertaining to surgical outcome at one year. Cause of death was unrelated to LADD.

Pre-Operative History.—Information provided on the patient history form revealed that greater than 50% (N=16) of the patients were currently being treated for unrelated medical conditions, and 25% (N=8) of the patients had undergone previous surgical intervention of the lumbar spine (Table 2). Duration of symptoms was provided by 97% (N=30) of the patients averaging 36.2 months (SD=52.2 months).

Physical Examination and Radiographic Findings.—Patients underwent physical examination to determine if symptomatology existed that was indicative of radicular leg pain, including diminished strength of the extensor hallicus longus (EHL), diminished deep tendon reflex (DTR) and positive straight leg raise (SLR). All patients showed symptoms consistent with radicular leg pain. Positive radiographic findings of non-sequestered herniated nucleus pulposus was determined in all patients. See Table 3 for physical examination findings and diagnostic radiographic imaging devices.

Operative and Post-Operative Report.—The majority of the herniations were on the patient's right side (N=21, 67.7%); however, there were 9 (29%) left-sided herniations and 1 (3.2%) cen-

Table 2. Pre-Operative History

Coexisting Medical Conditions		
Diabetes	7	(22.6%)
Arthritis	3	(9.7%)
Asthma	1	(3.2%)
Other	5	(16.1%)
None	15	(48.4%)

Prior Surgical Intervention on the Lumbar Spine	
Open Laminectomy	7
Fusion	2*

*One patient underwent both fusion and open laminectomy

Table 3. Physical Examination Findings and Diagnostic Radiographic Imaging Devices

Physical Examination Findings	Yes	No
EHL (diminished)	19 (61.3%)	12 (38.7%)
DTR (diminished)	18 (58.1%)	13 (41.9%)
SLR (positive)	17 (54.8%)	14 (45.2%)
Radiographic Imaging Device		
MRI	27 (87.1%)	
CT	2 (6.5%)	
CT with Myelogram	2 (6.5%)	
Level of LADD		
L1L2	1	
L2L3	2	
L3L4	5	
L4L5	17	
L5S1	11	
	36 levels*	

*Five patients underwent LADD at two levels

tral herniation. LADD was performed at a single index level for 83.9% (N = 26) of the patients, and at multiple levels for 16.1% (N = 5) of the patients (Table 3). The number of joules utilized during LADD ranged from 418 to 2019, with an average of 1355.1 (SD=451.5). All patients were released to normal activity, with an average number of days to release of 26.7 (SD=24.3) and a mode of 8 days. The average number of days followed by the surgeon was 49.5 (SD=44.5), ranging from 1 to 184 days.

Analyses of Surgical Outcome.—Macnab ratings at each follow-up point for all patients are shown in Table 4. Macnab ratings at one-year follow-up yielded a surgical success rate of 80% (N=24), including 11 "excellent" ratings and 13 "good" ratings. Surgical outcome (i.e., surgical success or surgical failure) was not related to gender of the patient [$X^2(1)2.71, p=10$]. Surgical outcome was not related to the coexistence of an unrelated medical condition [$X^2(1).03, p=.85$] or previous surgical intervention on the lumbar spine [$X^2(1).17, p=.68$]. There was no significant difference in duration of symptoms for surgical outcome [$F_{1,27}=1.53, p=.23$], averaging 39.4 months and 10.8 months for surgical success and surgical failure, respectively. Surgical outcome was not related to type of radicular symptomatology [i.e., EHL, $X^2(1).31, p=.58$; DTR, $X^2(1).14, p=.71$; or SLR, $X^2(1)2.17, p=.14$] or type of diagnostic radiographic imaging device [$X^2(2)1.15, p=.56$]. Surgical outcome was not related to the side of the patient's herniation [$X^2(2)4.44, p=.11$] or the level(s) of the LADD procedure [$X^2(3)1.65, p=.65$]. There were no significant differences in number of joules utilized ($F_{1,28}=.75$, $p=.39$), number of days to release to normal activity ($F_{1,28}=.84, p=.37$), or number of days followed by the surgeon ($F_{1,28}=.55$, $p=.46$) for surgical outcome.

Report of Surgical Failures.—Surgical failures included 2 patients requiring open laminectomy for undetected sequestered fragments, 1 patient requiring a second LADD procedure at the index level, and 3 patients with "fair" ratings. Patients requiring additional surgical treatment (i.e., open laminectomy or LADD) have responded successfully and were released to normal activity, indicating that LADD does not preclude additional forms of surgical intervention. Patients with "fair" ratings (i.e., minimal improvement) who remained essentially unresponsive to LADD, refused additional treatment. No complications were reported, and no patient received a permanent disability rating at release from the surgeon.

Discussion

The results from the current study suggest that LADD is a safe and efficacious procedure within the Medicare population for the treatment of nonsequestered herniated nucleus pulposus. Utilizing the Ho:YAG laser with side-firing fiber, a surgical success rate of 80% was achieved, which is comparable to or better than outcomes cited in previous literature for both traditional surgical procedures and other percutaneous methods.[6,12,13,17]

Within the current sample, surgical outcome was not related to the presence of a coexisting medical condition. These findings stand in contrast to previous literature involving traditional invasive surgical procedures and other percutaneous procedures where the patient's preoperative physiological status had a negative influence on surgical outcome and increased the likelihood of complications.[1] Further surgical outcome was not influenced by prior surgical intervention of the lumbar spine. In the current sample, patients undergoing LADD at multiple levels yielded a surgical success rate of 80%, indicating that LADD can be performed successfully on multilevel herniations.

Although limitations of the current study do exist (i.e., small sample size and utilization of a single treatment modality), within the Medicare population LADD appears to be a viable surgical procedure for the treatment of nonsequestered herniated nucleus pulposus without the risks and associated complications inherent in alternative treatment modalities. LADD is performed on an outpatient

basis under local anesthesia and offers the elderly patient a potentially shorter recovery period and a faster return to normal activity. Consistent with Choy,[25] the cost of surgical care for a single-level LADD procedure is estimated at one-third the cost of a single-level lumbar disc excision.[24]

Although findings from the current study suggest that the presence of a coexisting medical condition and prior surgical intervention are not related to surgical outcome, these factors should be carefully assessed prior to providing intervention. Future research should work towards the development of randomized clinical trials that can quantify the differences between the various types of lasers and associated wave lengths, and examine further the influence of age and coexisting medical conditions on surgical outcome. J

Table 4. Macnab Ratings for LADD at Each Follow-up*

Case	Immediate	1 Week	3 Months	6 Months	1 Year
1	1	1	1	1	1
2	1	1	1	1	1
3	1	1	1	1	1
4	2	2	3	3	2
5	2	2	4	4	4**
6	2	2	2	1	1
7	1	1	2	4	4†
8	1	1	2	2	3
9	1	2	2	2	2
10	1	1	1	1	1
11	1	1	1	1	1
12	1	1	2	2	2
13	1	2	2	2	2
14	1	1	1	1	1
15	1	1	2	2	–‡
16	1	1	1	1	1
17	1	2	2	2	1
18	1	2	1	1	1
19	2	1	2	2	2
20	1	1	2	2	2
21	1	1	2	2	2
22	2	2	3	3	2
23	1	1	3	3	3
24	1	1	1	1	1
25	1	2	4	4	3
26	1	1	2	2	2
27	1	2	2	2	2
28	2	3	4	4	4**
29	1	1	2	2	2
30	2	1	2	2	2
31	1	1	3	2	2
Surgical Success Rating	100%	96.8%	77.4%	77.4%	80%

*1 = "excellent"; 2 = "good"; 3 = "fair"; 4 = "poor"
**Required open laminectomy —classified as failure
†Required additional LADD at index level — classified as failure
‡Patient deceased at one year follow-up

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References

1. Deyo RA, Cherkin DC, Loeser JD, Bigos SJ, Ciol MA. Morbidity and mortality in association with operations on the lumbar spine. *JBJS* 1992, 74A:536-543.
2. Kramer PW. Elective major lumbar spinal surgery in the elderly. *Surg Neurol* 1988, 30:359-363
3. Jonsson B, Stromqvist B. Lumbar spine surgery in the elderly. *Spine* 1994;19:1431-1435.
4. Abram LJ. Lumbar fusion in the elderly. *J Southern Ortho Assoc* 1994;3:166.
5. Ciol MA, Deyo RA, Kreuter W, Bigos SJ. Characteristics in Medicare beneficiaries associated with reoperation after lumbar spine surgery. *Spine* 1994,19:1329-1334.
6. Smith EB, Hanigan WC. Surgical results and complications in elderly patients with benign lesions of the spinal canal. *JAGS* 1992;40:867-870.
7. Harbrecht PJ, Garrison RN, Fry DE. Surgery in elderly patients. *SMJ* 1981;74:594-598.
8. Quigley MR, Kortyna R, Goodwin C, Maroon JC. Lumbar surgery in the elderly. *Neurosurgery* 1992;30:672-674.
9. Fast A, Robin GC. Surgical treatment of lumbar spinal stenosis in the elderly. *Arch Phys Med Rehabil* 1985;66:149-151.
10. Lomax AJ, Deatherage G. Surgery in the aged. *Canad J Surg* 1983;26:550-551.
11. Harada Y, Nakahara S. A pathologic study of lumbar disc herniation in the elderly. *Spine* 1989;14:1020-1024.
12. Davis GW, Onik G. Clinical experience with automated percutaneous lumbar discectomy. *Clin Ortho* 1989; 238: 98-103
13. Maistrelli GL, Vaughan PA, Evans DC, Barrington TW. Lumbar disc herniation in the elderly. *Spine* 1987;12:63-66.
14. Quigley MR, Maroon JC. Laser discectomy: a review. *Spine* 1994; 19: 53-56.
15. Gill K. Percutaneous lumbar diskectomy. *Am Acad Orthop Surg* 1993;1:33-40.
16. Weak SA. Laser disc decompression. *Today's OR Nurse* 1992; 3-6.
17. Choy DSJ, Seddekni S, Michelson J, Alkaitis D, Liebler W, Diwan S. Percutaneous lumbar disc decompression with Nd:YAG laser. *Am J Arthro* 1991;1:9-13.
18. Ohnmeiss DD, Guyer RD, Hochschuler SH. Laser disc decompression: the importance of proper patient selection. *Spine* 1994; 19:2054-2059.
19. Sherk HH, Rhodes A, Black J, Prodoehl LA. Results of percutaneous lumbar discectomy with lasers. State of the Art Rev. *Spine* 1993;7:141-150.
20. Lane GT, Prodoehl JA, Black SJ, Lee SJ, Rhodes A, Sherk HH. An experimental comparison of CO_2, argon, ND:YAG, and Ho:YAG laser ablation of intervertebral discs. State of the Art Rev. *Spine* 1993; 7:1-10.
21. Phillips JJ, Kopchok GE, Peng SK, Mueller MP, White RA. MR imaging of the Ho:YAG laser diskectomy with histologic correlation. *JRMI* 1993; 3: 515-520.
22. Smith RC, Hawver J, Uppal GS, Irrgang S. Comparison of two laser wave lengths for laser discectomy. *Orthop Trans* 1993; Spring.
23. Macnab I. The traction spur: an indicator of segmental instability. *Clin Orthop* 1971; 53A:891-903.
24. Hanley EN. Lumbar spinal fusions: matching expectations and outcomes. *AAOS Bulletin* 1993;41:6.
25. Choy DSJ. Editorial: Medicare's irrational reimbursement schedule. *J Clin Las Med & Surg* 1994; 12:131.

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Surgical Treatment of Cancer of the Pancreas in Large Community Hospitals

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A retrospective study compares the success rates of surgical treatment of cancer of the pancreas in large community hospitals. Although none of the surgeons averaged as many as two pancreaticoduodenal resections per year for the period of this study, their results compared well with other published series except for a few centers and surgeons who did a very high volume of such resections. Results of the study indicate that well trained surgeons in well staffed and well equipped community hospitals can provide acceptable results in pancreaticoduodenectomies for cancer of the pancreas.

Some documented presenting symptoms were abdominal pain (63%), back pain (28%), vomiting (24%), and pruritus (10%).

There are over 28,000 new cases of pancreatic cancer in the United States each year, which account for almost 28,000 deaths annually. The incidence of pancreatic cancer has doubled in the past 60 years and has peaked at 8 per 100,000.[1] Cancer of the pancreas has the lowest five-year survival of all carcinomas, which is reported to be 0.4% worldwide.[2-4] It is the fourth leading cause of death from cancer in the United States. Warshaw,[1] reviewing carcinoma of the pancreas, found the average survival from the time of diagnosis to be six months, and surgical removal of the pancreas and duodenum was the only treatment that prolonged survival. Many articles[5-9] confirm these discouraging results of pancreatic carcinoma, while others are more recent and much more optimistic.[10-12] Trede[12] and Warshaw[1] report long series of pancreaticoduodenectomies with no mortality.

It is clear that the mortality rate from resecting the pancreas and duodenum has changed remarkably in the last 25 years, and that operative mortality rates of 30% are now excessive. With the exception of several publications by surgeons doing very large volumes in university hospital settings who report mortality rates below five percent,[1,3,10,11,13] the mortality rate for pancreaticoduodenectomy is in the range of 5% to 15%.[5,6,8,11,12] This improvement is often attributed to better preparation of the operating team, reduced operating time, less blood loss and replacement, improved anesthesia, earlier detection of complications by CT scan, more timely and effective handling of complications, and limiting pancreatic surgery to fewer surgeons with more cases.[1,10,11,13] Wanebo reviews the current status of managing carcinoma of the pancreas.[14]

Our study represents the ten-year experience of three large community hospitals with a total of 1,896 beds in a single metropolis of about 400,000 people. These hospitals all have teaching programs but are not "university" or "Dean's" hospitals. The pancreaticoduodenal resections were carried out by a number of different surgeons, all fully trained, but none averaged as many as two resections per year during the period we reviewed. Our primary intention in this retrospective study was to determine if the results in these community hospitals were comparable to the results in university medical centers as reported in the literature. We also wanted to determine if we were improving our performance, so we looked

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at the first two years of our series (1980-81) and compared them to the last two years (1988-89).

Methods

The records of all patients who had the diagnosis of cancer of the pancreas in the three hospital cancer registries from 1980 through 1989 were reviewed. All of the patients who lacked a tissue diagnosis were excluded, as were all ampullary cancers, carcinoid, and other neuroendocrine tumors. This left 340 patients with carcinomas of the pancreas to be considered.

The records were abstracted, and the pertinent information recorded and analyzed. The patients were divided into those who never had laparotomies (but had tissue diagnoses) and those who had laparotomies. Those patients who had laparotomies were further divided into those who had curative resections and those who did not. The 30 patients who underwent curative resection (pancreaticoduodenectomy) were specifically analyzed regarding morbidity and mortality, with special comparisons made between those patients having Whipple resections during the first two years of our study (1980-81) and the last two years of our study (1988-89).

P values were calculated from Yates-corrected Chi-square and Fisher's exact test. The Kaplan-Meier product limit method[15] was used to estimate observed survival rates. Three patients survived five years or longer, but after a review of the histopathology, it was seriously questioned whether one of these patients met the criteria for our study and she was dropped from further statistical consideration. These three patients will be reviewed in more detail.

Results

The 339 patients with cancer of the pancreas included 183 males (54%) and 156 females (46%). Three hundred ten were white (91%), 23 patients were black (7%), and the remainder were American Indian or Hispanic. Two hundred sixty-seven patients (79%) had laparotomies, but in only 30 patients (9% of the total cases) was it possible to do Whipple operations (Table 1). Eighty percent of the patients receiving Whipples had cancer in the head of the pancreas. In contrast, of the patients determined to be so far advanced that no laparotomy was done, only 33% had cancer in the head of the pancreas ($p<.001$) (Table 2). Less than one percent of all the patients with non-ampullary cancer of the pancreas survived five years.

Some documented presenting symptoms were abdominal pain (63%), back pain (28%), vomiting (24%), and pruritus (10%). The most common signs were weight loss of over 10 pounds (55%) and jaundice (45%). Fifteen patients had diabetes (4%). The frequency of these symptoms and signs among those patients who did not have laparotomies, compared to those who had palliative surgical procedures and to those who had Whipple procedures, were similar except for jaundice and pruritus. Jaundice and pruritus were more common in those patients who subsequently had Whipple procedures done (Table 3).

A variety of diagnostic procedures was used in establishing the diagnosis of cancer of the panere-

Table 1. Demographics

	All Cases N=339		No Laparotomy N=72		Lap-No Whipple N=237		Whipple Procedure N=30	
	N	%	N	%	N	%	N	%
Sex								
Male	183	(54)	44	(61)	127	(54)	12	(40)
Female	156	(46)	28	(39)	110	(46)	18	(60)
Race								
Caucasian	310	(91)	67	(93)	217	(92)	26	(87)
Black	23	(7)	3	(4)	17	(7)	3	(10)
American Indian	6	(2)	2	(3)	3	(1)	1	(3)
Age								
Under 50	21	(6)	3	(4)	17	(7)	1	(3)
50-59	63	(19)	9	(13)	40	(17)	14	(47)
60-69	99	(29)	19	(26)	71	(30)	9	(30)
70-79	108	(32)	31	(43)	74	(31)	3	(10)
80 & Over	42	(12)	9	(13)	31	(13)	2	(7)
Not Stated	6	(2)	1	(1)	4	(2)	1	(3)

Adjuvant chemotherapy was seldom used in patients having Whipple procedures (13%).

as. The accuracy of computerized tomography (CT scan) was 77%, percutaneous transhepatic cholangiogram (PTC) 24%, endoscopic retrograde cholecystogram and pancreatography (ERCP) 55%, and ultrasonography (US) 32% (Table 4). Fine needle aspiration was not done often enough to be fairly compared. It should be noted that the accuracy of the CT scan in the first two years of this study for those patients who subsequently had Whipple resections was only 20%, but in the last two years the accuracy was 100%. The number of patients is small, but significant improvement over the decade is clear ($p<0.05$) (Table 5).

The patients who had Whipple procedures had a lower mortality rate 30 days from diagnosis or surgery (13%) than either those with palliative procedures (19%) or those who had the diagnosis established without any surgery (33%). This is probably due to patient selection. Serious morbidity (Table 6) for Whipple procedures required re-operation in 17% of the patients. Other complications included: 17% sepsis, 7% post-operative

Table 2. Location of Tumor

	N=72 No Laparotomy		N=237 Lap-No Whipple		N=30 Whipple Procedure	
	N	%	N	%	N	%
Head	*24	(33)	150	(63)	*24	(80)
Body	13	(18)	20	(8)	1	(3)
Tail	10	(14)	15	(6)	1	(3)
Overlapping Sites	9	(13)	22	(9)	1	(3)
Not Otherwise Specified	16	(22)	30	(13)	3	(10)
Totals	72	(100)	237	(100)	30	(100)

*p<001 by Yates corrected Chi-square

Table 3. Signs and Symptoms

	All Cases N=339		No Laparotomy N=72		Lap-No Whipple N=237		Whipple Procedure N=30	
	N	%	N	%	N	%	N	%
Abdominal Pain								
Yes	214	(63)	46	(64)	149	(63)	19	(63)
No	120	(36)	26	(36)	83	(35)	11	(37)
Unknown	5	(2)			5	(2)		
Back Pain								
Yes	94	(28)	25	(35)	63	(26)	6	(20)
No	239	(71)	47	(65)	168	(71)	24	(80)
Unknown	6	(2)			6	(3)		
Pruritis								
Yes	34	(10)	1	(1)	25	(10)	8	(27)
No	299	(88)	71	(99)	206	(87)	22	(73)
Unknown	6	(2)			6	(3)		
Weight Loss>10lb								
Yes	187	(55)	43	(60)	129	(55)	15	(50)
No	145	(43)	29	(40)	101	(42)	15	(50)
Unknown	7	(2)			7	(3)		
Jaundice								
Yes	151	(45)	7	(10)	122	(52)	22	(73)
No	182	(56)	65	(90)	109	(46)	8	(27)
Unknown	6	(2)			6	(3)		

hemorrhage, and 7% post-operative fistula. There was delayed gastric emptying in 13% of the Whipple resections.

Histology and grade of the cancers are presented in Table 7 and Table 8. Poorly to moderately differentiated adenocarcinoma was the most common.

Adjuvant chemotherapy was seldom used in patients having Whipple procedures (13%) and radiation therapy was also seldom used in this group (17%). Of the patients who did not undergo laparotomies, 17% received chemotherapy and radiation therapy, 36% chemotherapy, and 7% radiation therapy. Twenty-nine patients (40%) did not have laparotomies, chemotherapy, or radiation therapy.

There were three patients who survived five years; all were women, white, and jaundiced at diagnosis. None of them had a prior history of cancer. The first patient was 55 years old and presented with abdominal pain, vomiting, and jaundice. Diagnostic work-up revealed normal results from chest x-ray, CT, and bone scan. No tissue diagnosis was obtained pre-operatively. The patient underwent curative resection. Tumor size was 2.5 cm with no nodes positive. Postoperative course was complicated by delayed gastric emptying. The patient received no chemotherapy or radiation treatments. Survival time was 14 years 6 months, and death was due to a cerebrovascular accident.

The second survivor initially presented with jaundice, pruritus, and vomiting. CT and ERCP were abnormal but were not interpreted as suggestive of cancer. Biopsy was attempted but was not diagnostic. A curative resection was performed and the diagnosis of ductal carcinoma was established. Tumor size was 3.5 cm and limited to the pancreas. All nodes examined were negative for cancer. There were no complications or recurrences. Postoperative radiation and chemotherapy were given. The patient was still living at 7 years 4 months.

A third female patient, dropped from statistical consideration, was 59 years old, presenting with painless jaundice, weight loss, and dark urine. Diagnostic work-up included a bone scan suggestive of cancer and abnormal chest x-ray and liver scan that were not suggestive of cancer. A lymph node near the pancreas was biopsied and showed a small cell cancer originally called a "cancer of the pancreas." A palliative procedure was performed (cholecystojejunostomy and gastrojejunostomy). Postoperatively, the patient received radiation and chemotherapy. The patient developed recurrences in the pelvis, peritoneum, and vagina and subsequently received additional chemotherapy. She survived 8 years 4 months from the first laparotomy and diagnosis. Three months before her death, a mucin-producing adenocarcinoma of the stomach was diagnosed. At our request the histopathology was reviewed by several different pathologists. This patient is not included in our statistical analysis because of the unusual pathology and history.

Table 4. Accuracy of Diagnostic Procedures

	CT abd		PTC		ERCP		US abd	
	N	%	N	%	N	%	N	%
Abn-Cancer	203	(77)	26	(24)	45	(55)	38	(32)
Abn-Not Suggestive	49	(19)	81	(73)	19	(23)	60	(50)
Normal	10	(4)	1	(1)	7	(9)	21	(18)
Attempted Non-dx			2	(2)	11	(13)		
Total Procedures	262	(100)	110	(100)	82	(100)	119	(100)
Other/Not Done	77		229		257		220	

Table 5. Comparison of Abdominal CT Accuracy

	1980-81		1988-89	
	All Cases			
	N	%	N	%
Abn-Cancer	*28	(67)	*52	(90)
Abn-Not Suggestive	11	(26)	6	(10)
Normal	3	(7)		
Totals	42	(100)	58	(100)
	Whipple			
Abn-Cancer	*1	(20)	*5	(100)
Abn-Not Suggestive	3	(60)		
Normal	1	(20)		
Totals	5	(100)	5	(100)

*p< .05 by Fisher's exact test

Table 6. Serious Morbidity of Whipple Procedure

	Whipple N=30	
	N	%
Re-op	5	(17)
Sepsis	5	(17)
Post-op Hemorrage	2	(7)
Post-op Fistula	2	(7)
Delayed Gastric Emptying/Obstruction	4	(13)

Discussion

The recent literature has included numerous retrospective reviews[2,5,6,8,14] and many large series

of patients with cancer of the pancreas, mostly from university hospitals.[6,7,9-13] The experience of community hospitals in the United States staffed by surgeons trained in the various university hospitals has not been published, perhaps because of the relatively small numbers of Whipple procedures done in any one hospital.

The signs and symptoms of our patients were similar to other published reports, with jaundice, pruritus, weight loss, abdominal pain, and back pain being the most diagnostic findings. The diagnostic work-up in our series is similar to those published, with the CT scan being the most reliable method of diagnosis. However, it was accurate in only 77% of the patients later proven to have cancer of the pancreas (Table 4).

Our survival results for Whipple procedures were comparable to several university medical centers' experiences in the early 1980s.[7,12] We had a 30-day mortality rate of 13%, a one-year survival rate of 40%, a two-year survival rate of 13%, and a five-year survival rate of 7% (Fig. 1). Wade[8] reviewed the experience of the Veterans Administration hospitals and reported 12% operative mortality. He projected a five-year survival rate of 12%. The survival results of ampullary carcinoma reported by Neoptolemos[6] (56%) are clearly not comparable to the five-year survival results for carcinomas of the pancreas itself, even if the main difference is their earlier symptoms and treatment. The immediate mortality of the Whipple procedure, which he reported as 12.5%, is comparable. Some university hospitals[5,6] report operative mortality of 25% and no five-year survivors.

Lucas[16] advocated antrectomy and Billroth II to prevent or to cure gastric outlet obstruction in cancer of the pancreas. Thirteen percent of the resected patients in our series had delayed gastric emptying, but none had obstruction. Only two of our patients had a pylorus-sparing resection. None of our patients had pancreaticogastrostomies, which Decore[17] and Takao[18] have reported to be free from any postoperative pancreatic fistulae. Cullen[19] reported leaks from the pancreaticojejunostomy in 18% of the Whipple procedures, with 8% mortality. Seven percent of our Whipples developed fistulae (Table 6).

Several authors[3,10] note that there is a shorter operating time in the last few years and that fewer blood transfusions are necessary. The mean number of blood transfusions among our patients was three units, which compares favorably to other published series.

Conclusion

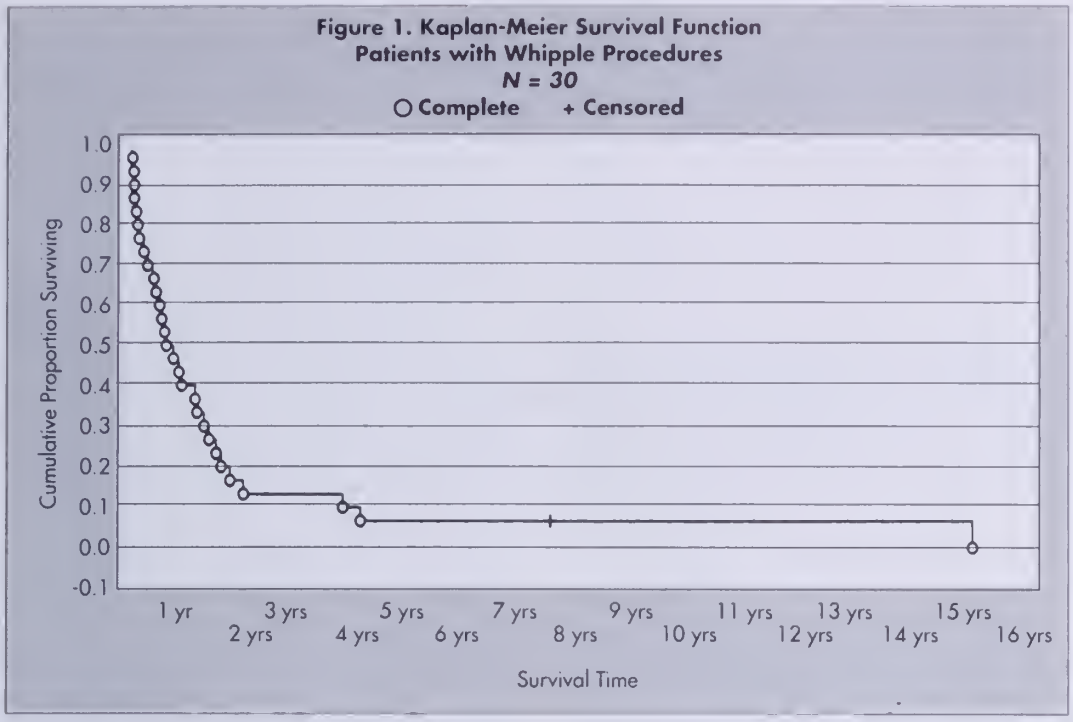
A retrospective study of 339 patients with carci-

Table 7. Histological Type of Cancer

	N=72 No Laparotomy		N=237 Lap-No Whipple		N=30 Whipple Procedure	
	N	%	N	%	N	%
Adenocarcinoma	54	(75)	181	(76)	22	(74)
Mucin	8	(11)	18	(8)	1	(3)
Ductal	2	(3)	26	(11)	6	(20)
Other	8	(11)	12	(5)	1	(3)
Totals	72	(100)	237	(100)	30	(100)

Table 8. Grade of Malignancy

	N=72 No Laparotomy		N=237 Lap-No Whipple		N=30 Whipple Procedure	
	N	%	N	%	N	%
Well Differentiated (1)	2	(3)	9	(4)	4	(13)
Moderately Differentiated (2)	21	(29)	81	(34)	11	(37)
Poorly Differentiated (3)	17	(23)	78	(33)	11	(37)
Undifferentiated (4)	2	(3)	13	(5)	1	(3)
Not Stated, Not Determined	30	(42)	56	(24)	3	(10)
Totals	72	(100)	237	(100)	30	(100)



noma of the pancreas showed that only 30 patients (9%) had a curative resection of the pancreas and duodenum. Our patients receiving Whipple procedures had a 13% 30-day mortality rate, a 27% serious morbidity rate, and a 7% five-year survival rate. The overall survival rate for the 339 patients was 0.6%. Although none of the surgeons averaged as many as two pancreaticoduodenal resections per year for the period of this study, their results compared well with other published series except for a few centers and surgeons who did a very high volume of such resections. No significant improvement of results could be demonstrated between the first two and last two years of this study. Well trained surgeons in well staffed and well equipped community hospitals can provide acceptable results in pancreaticoduodenectomies for cancer of the pancreas.

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References

1. Warshaw A, Castillo C. Pancreatic carcinoma. *New England Journal of Medicine* 1992; 326:455-465.
2. Gudjonsson B, Livstone E, Spiro H. Cancer of the pancreas, diagnostic accuracy and survival statistics. *Cancer* 1978;42:2494.
3. Pellegrini C, Heck C, Raper S, et al. An analysis of the reduced morbidity and mortality rates after pancreaticoduodenectomy. *Archives of Surgery* 1989;124:778-781.
4. Harris G, Gaskill H, Cruz A. Carcinoma of the pancreas: a retrospective review. *Journal of Surgical Oncology* 1990;45:184-189.
5. Connolly M, Dawson P, Michelassi F, et al. Survival in 1001 patients with carcinoma of the pancreas. *Annals of Surgery* 1987;206:366.
6. Neoptolemos J, Talbot I, Carr-Locke D, et al. Treatment and outcome in 52 consecutive cases of ampullary carcinoma. *British Journal of Surgery* 1987;74:957-961.
7. Peters J, Carey L. Historical review of pancreaticoduodenectomy. *American Journal of Surgery* 1991;161:219-223.
8. Wade T, Radford D, Firgo K, et al. Complications and outcomes in the treatment of pancreatic adenocarcinoma in the United States veteran. *Journal of American College of Surgeons* 1994;179-38.
9. Crist D, Sitzmann J, Cameron J. Improved hospital morbidity, mortality, and survival after the Whipple procedure. *American Surgical Association* 1987;206:358.
10. Grace P, Pitt H, Tompkins R, et al. Decreased morbidity and mortality after pancreaticoduodenectomy. *American Journal of Surgery* 1986,151 141-148.
11. Bakkevold K, Kambestad B. Morbidity and mortality after radical and palliative pancreatic cancer surgery. *Annals of Surgery* 1993;217:356-368.
12. Trede M, Schwall G, Saeger H. Survival after pancreaticoduodenectomy. *Annals of Surgery* 1990;211:447-458.
13. Edge S, Schmieg R, Rosenlof L, *et al.* Pancreas cancer resection outcome in American university centers in 1989-1990. *Cancer* 1993;71:3502-3508.
14. Wanebu H, Vezeridis M. Pancreatic cancer, an overview. *Seminars in Surgical Oncology* 1995;11:168-180.
15. Kaplan E, Meier P. Nonparametric Estimation from Incomplete Observations. *Journal of American Statistical Association* 1958;53:457-481.
16. Lucas C, Ledgerwood A, Saxe J, et al. Antrectomy: a safe and effective bypass for unresectable pancreatic cancer. *Archives of Surgery* 1994:129:795-799.
17. Delcore R, Thomas J, Pierce G, et al. Pancreaticogastrostomy: a safe drainage procedure after pancreaticoduodenectomy. *Surgery* 1990;108:641-647.
18. Takao S, Shimazu H, Maenohara S, *et al.* Modified pancreaticogastrostomy following pancreaticoduodenectomy. *American Journal of Surgery* 1993;165:317-321.
19. Cullen J, Sarr M, Ilstrup D. Pancreatic anastomotic leak after pancreaticoduodenectomy: incidence, significance, and management. *American Journal of Surgery* 1994;168:295.

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Karen Malnar, RN, CTR; Charlette Bellefeuille, CTR; and Betty Berry, RN, MPH, collected the data, ran the statistics, and assisted in the preparation of this manuscript.

Cardiac Transplantation in Patients Aged 60 Years or Older

Larry Mischke, RN; Sharon Sisson, RN; D.K.C. Cooper, MD, PhD; Nazih Zuhdi, MD

One hundred eighty-four consecutive patients who underwent heart transplantation from January 1987 to December 1994 have been reviewed. Patients who were 60 years of age or older at the time of transplant (Group A, n=50) showed improved overall survival when compared with younger patients (Group B, n=134), though this was not statistically significant. Survivals in groups A and B were 94% and 90%, respectively, at 1 year; 86% and 80% at 5 years; and 86% and 78% at 8 years. Overall survival of older patients in the U.S. and worldwide is inferior when compared with younger patients. More thorough pretransplant evaluation of the older patient and improved compliance post-transplantation may be factors in the good results obtained in this group at our own center.

Whether there should be an upper age limit above which heart transplantation should not be offered to a patient remains controversial. At the present time, it is the policy of most groups to have no upper age limit but to be particularly thorough in assessing patients who are older than 60 years and to exclude them if there is one or more significant contraindications. There are clearly varying opinions on the ethical aspects of offering a donor heart to an elderly patient when there is a large number of younger patients awaiting the procedure.

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The "physiologic" age of the patient is clearly more important than the chronologic age, and this must be carefully assessed. Our own policy, therefore, has been to have no strict upper age limit, although we are reluctant to offer heart transplantation to patients over the age of 65 if they have even a relative contraindication. We possibly have been less strict in those between the ages of 60 and 65 but, nevertheless, have investigated these patients in more detail than younger patients, particularly those under the age of 50.

Here we present the results of a survey of 184 consecutive patients who underwent heart transplantation at our center, 50 of whom were 60 years of age or older and 134 of whom were less than 60 years of age at the time of heart transplantation.

Patients and Methods

This retrospective study dates from January 1, 1987, to December 31, 1994, during which period a total of 184 patients underwent primary heart transplantation. Patients who were undergoing retransplantation have been excluded. Follow-up to June 30, 1995, was for a minimum of 6 months to a maximum of 8.5 years. The 50 patients who were 60 years of age or older (Group A) had a mean age of 63.2 years (range 60 to 67.9 years). The group under 60 years of age (Group B) had a mean range of 48.2 years (range 15 to 59.9 years).

Demographics of these two groups are summarized in Table 1. There was no significant difference between the two groups with regard to (1) male-female sex ratio, (2) underlying cardiac disease, (3) the hemodynamic status of the patient at the time of transplantation (United

Network for Organ Sharing [UNOS, the network that coordinates organ transplantation in the U.S.] status 1 or 2, with status 1 patients being in an intensive care unit on intravenous inotropic agents +/- intra-aortic balloon pump +/- ventilator support at the time of transplantation and status 2 patients being all others), or (4) the age of the donor. There was a significantly higher ($p<0.01$) percentage of patients who had undergone previous cardiac surgery (and therefore had presumably received previous blood transfusions) in Group A than in Group B (60% vs 38%).

Selection of the Recipient.—All candidates for heart transplantation undergo thorough evaluation, including blood chemistry and count, respiratory function tests, creatinine clearance, relevant serology, and psychosocial assessment. In addition, patients over the age of 40 years undergo ultrasound examination of peripheral arteries, and those over 50 years have a vertebral bone density scan.[1] Contraindications to heart transplantation include active infection, recent malignancy, irreversible failure of other major organs, recent and unresolved pulmonary infarction, severe fixed pulmonary hypertension, symptomatic peripheral or cerebral vascular disease, gross obesity or cachexia, and psychosocial instability, including a history of noncompliance with medical advice.

Immunosuppressive Therapy.—Two immunosuppressive protocols were followed during the period reviewed (Protocols 1 and 2). From January 1987 to May 1989, our immunosuppressive protocol consisted of induction therapy with antithymocyte globulin (ATG), with maintenance cyclosporine, azathioprine, and low-dose prednisone (Protocol 1). From June 1989 until December 1994, therapy consisted of induction therapy with preoperative oral cyclosporine and azathioprine followed by maintenance cyclosporine, azathioprine, and high-dose prednisone; no ATG was given (Protocol 2). During the periods that these protocols were followed, all patients, irrespective of age, were treated similarly. Details of both protocols have been published previously.[2,3] The percentage of patients in each group (A or B) treated by the different protocols was not significantly different (Table 1).

Adjunctive Therapy.—No prophylaxis against infection was given to the patients under Protocol 1. During the period of Protocol 2, prophylaxis against infections was initiated.[2,3] This included a three-month course of oral acyclovir, together with the intravenous infusion of commercially available immunoglobulin (at 500 mg/kg) on days 7 and 35 after transplantation in an effort to prevent both herpes and cytomegalovirus infections. In addition, all patients in Protocol 2 received trimethoprim-sulfamethoxazole (Bactrim DS®) one daily, indefinitely.

No prophylaxis against infection was given to the patients under Protocol 1.

Table 1. Demographics of 184 Patients Undergoing Heart Transplantation Between January 1987 and December 1994

	Group A: >60 Years (n = 50)	Group B: <60 Years (n = 134)	Statistical Significance* (Group A vs Group B)
Mean Age (range) (years)	63 (60-67.9)	48 (15-59.9)	P<0.01
Sex	M 44: F 6 (Ratia 7:1)	M 108: F 26 (ratia 4:1)	NS
Underlying Cardiac Disease			
Idiopathic CM	15 (30%)	50 (37%)	NS
Ischemic CM	35 (75%)	80 (60%)	NS
Other	0 (0%)	4 (3%)	NS
Previaus Cardiac Surgery: Yes	30 (60%)	51 (38%)	P<0.01
No	20 (40%)	83 (62%)	
UNOS Status: 1	27 (54%)	82 (62%)	NS
2	23 (46%)	52 (38%)	
Mean Donar Age (range) (years)	27 (136-65)	28 (8-62)	NS
Pratocal: 1	12 (24%)	48 (36%)	NS
2	38 (76%)	86 (64%)	

Student t-test
M = Male; **F** = Female
CM = Cardiomyopathy
UNOS = United Network for Organ Sharing

Statistical Analyses.—Comparison of demographic data was by the Student t-test, and of patient actuarial survival by the Kaplan-Meier test.

Results

Overall actuarial patient survival of the entire consecutive 184 patients was 91% at 1 year, 86% at 2 years, 81% at 5 years, and 79% at 8 years. Patient survival at one year for Group A was 94% and for Group B, 90% (Fig. 1). At 5 years, survivals for groups A and B was 86% and 80%, respectively, and at 8 years, 86% and 78%, respectively. Although marginally better survival was obtained in the older patients of Group A, this did not reach statistical significance.

The only demographic difference between the two groups (Table 1) was with regard to the percent in each group that had undergone previous cardiac surgery (and therefore had probably received previous blood transfusions, which may be a beneficial factor with regard to survival following organ transplantation if not sensitizing.).[4-6] However, statistical analysis comparing all patients who had undergone previous cardiac surgery with those who had not showed no significant difference in survival. The slightly better survival of the patients in Group A was therefore apparently not related to the increased percentage who had undergone previous cardiac surgery.

The overall incidence of death was not statistically different between groups A and B. The causes of death in both groups in the span of eight years and six years, respectively, are listed in Table 2. The 7 deaths in Group 1 (14% mortality) were from acute and chronic rejection, infection, cerebrovascular accident, and *de novo* malignancy. Acute and chronic rejection and infection resulted in 16 (55%) of the 29 deaths in Group B (where there was an overall mortality of 21%). There were 8 deaths in Group B, but none in Group A, from multisystem failure, donor heart dysfunction, sleep apnea, and renal or hepatic failure.

No deaths in Group A, but 3 (10%) in Group B, were associated with patient noncompliance in the form of (1) not taking essential medications regularly, (2) substance abuse, or (3) nonattendance for clinic follow-up.

For the U.S. as a whole, one-year primary heart graft survival in patients at 60 years of age is approximately 82%.

Table 2. Causes of Death

Cause of Death	Group A >60 (n=50)	Group B ≤60 (N=134)
Acute rejection	1	5
Chronic rejection	2	6
Infection	1	5
CVA	1	3
Donor heart dysfunction		3
Multisystem failure		2
De novo malignancy	2	1
Sleep apnea		1
Renal failure		1
Hepatic failure		1
Uncertain (sudden death)		1
Total	7/50 (14%)	29/134 (21%)

Discussion

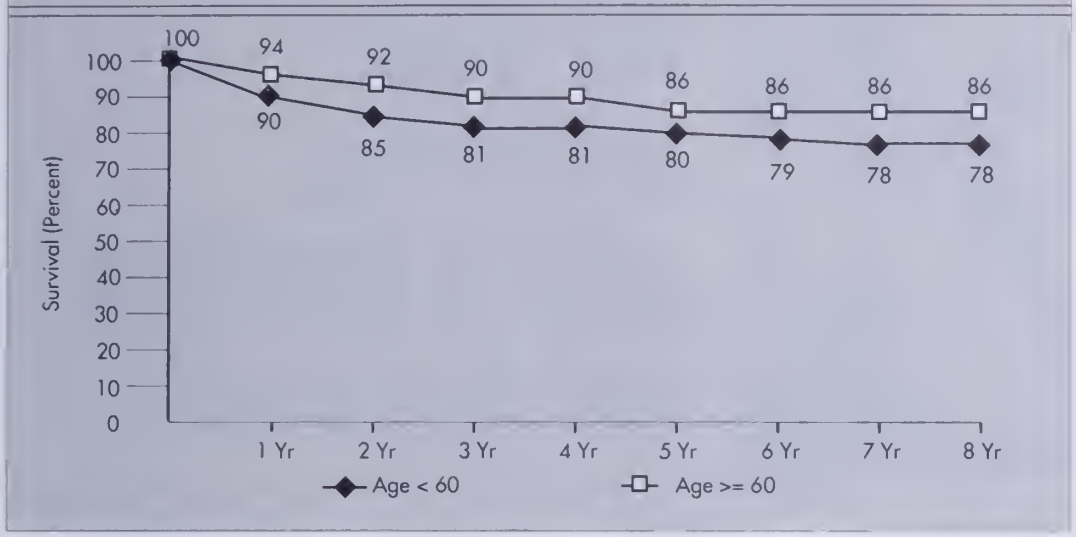
Survival was good in both groups of patients, with slightly lower mortality (though not statistically significant) in the older patients of Group A. In contrast, national figures for the U.S. from UNOS report a slightly higher mortality in older patients.[7] For the U.S. as a whole, one-year primary heart graft survival in patients at 60 years of age is approximately 82%, whereas those between 15 and 45 years have one-year survival rates of approximately 88%. By 3 years, survival at 60 years of age has fallen to a range of 69% to 76% (depending on sex and race) and at 15 to 45 years, to a range of 74% to 83%.

Data from the International Society for Heart and Lung Transplantation Registry documents that recipient age >60 years is a highly significant increased risk factor.[8] In a large multicenter international study (Collaborative Heart Transplant Study) coordinated by Opelz, a statistically significant decreased survival has been documented in patients >60 years of age. Five years post-transplant survival was approximately 70% in those <60 years and 60% in those >60 years.[9]

In previous reports of heart transplantation in patients over the age of 60 years from individual centers, one-year survival has been approximately 84%.[10,11] Even when patients over age 55 years of age are included, one-year survival has ranged from 71% to 82%[12-14] except for one report where survival was 96%.[15] The results of heart transplantation at our own center in the older patient (>60 years) would therefore appear to be rather better than at most other centers in the U.S. and worldwide.

What factors might be of importance in the good results obtained in the older patients in the present study? Careful selection of the patient would appear to be a key factor. Our initial selection process of the older patient is more intensive. The patient is carefully scrutinized to ensure that all potential postoperative complications can be minimized. This more intensive evaluation may result in more rig-

Figure 1.
Actuorial survival (at 6/30/95) of patients undergoing heart transplantation from 1/1/87 through 12/31/94 (Koplan-Meier Test).



orous selection and perhaps fewer post-transplant problems. In addition, however, once transplanted, our impression is that our older patients have been more compliant in taking medication, attending clinics, and abstaining from alcohol or drug abuse and cigarette smoking. Generally, the older patient has more financial stability (either from accumulated assets or from Medicare reimbursement) and therefore has perhaps less difficulty obtaining medications and keeping appointments at the outpatient clinic. This compliance possibly has ensured that the older patient's health is more closely monitored, enabling any episode of ill health (e.g., from rejection or infection) to be investigated quickly and treated in a timely fashion.

The older patient's immune response may also be less vigorous in comparison to the younger patient, although we have not analyzed our data in this respect. If this were so, it might result in less acute rejection, necessitating less immunosuppressive therapy, possibly resulting in less infection. This factor, however, would be present in all older patients worldwide.

We conclude from this study that *carefully selected* patients 60 years of age or older can do at least as well after heart transplantation as younger patients.

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References

1. Cooper DKC, Sumpter P, Novitzky D, et al. Assessment and selection of patients for heart transplantation at Baptist Medical Center. *J Okla State Med Assn* 1988;41: 137
2. Jazzar A, Cooper DKC, Muchmore JS, et al. Heart transplantation with low mortality and low morbidity. *Saudi Heart J* 1992;3:33
3. Jazzar A, Fagiuoli S, Sisson S, Zuhdi N, Cooper DKC. Induction therapy with cyclosporine and without cytolytic agents results in a low incidence of acute rejection without significant renal impairment in heart transplant patients. *Clin Transplant* 1995;9: 334
4. Opelz G, Sengar DPS, Mickey MR, Terasaki PI. Effects of blood transfusions on subsequent kidney transplant. *Transplant Proc* 1973;5: 253
5. Dong E Jr, Stinson EB, Griep RB, Coulson AS, Shumway NE. Cardiac transplantation following failure of previous cardiac surgery. *Surg Forum* 1973;24: 150.
6. Cooper DKC, Boyd ST, Lanza RP, Barnard CN. Factors influencing survival following heart transplantation. *Heart Transplant* 1983;3:86.
7. *UNOS Update* 1995:11: 2, 24
8. Hosenpud JD, Novick RJ, Breen TJ, Keck B, Daily P. The Registry of the International Society for Heart and Lung Transplantation: Twelfth Official Report—1995. *J Heart Lung Transplant* 1995;14: 805.
9. Opelz G. Results of cardiac transplantation and factors influencing survival. In: Cooper DKC, et al. (eds) *The Transplantation and Replacement of Thoracic Organs*, second edition. Kluwer Academic, London. In press.
10. Avarot DJ, Banner NR, Khaghani A, et al. Cardiac transplantation in the seventh decade of life. *Am J Cardiol* 1989;63: 90.
11. Frazier OH, Macris MP, Duncan M, Van Buren CT, Cooley DA. Cardiac transplantation in patients over 60 years of age. *Ann Thorac Surg* 1988;45: 129.
12. Carrier M, Emery RW, Riley JE, Levinson MM, Copeland JG. Cardiac transplantation in patients over 50 years of age. *J Amer Coll Cardiol* 1986;8: 285.
13. Miller LW, Vitale-Noedel N, Pennington DG, Mcbride L, Kanter KR. Heart transplantation in patients over age 55 years. *J Heart Transplant* 1988;7: 254.
14. Defraigne JO, Demoulin JC, Van Damme H, et al. Cardiac transplantation in patients older than 55 years. *Acta Chir Belg* 1991;91: 38.
15. Olivari MT, Antolick A, Kaye M, Jamieson SW, Ring WS. Heart transplantation in elderly patients. *J Heart Transplant* 1988;7: 258.

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The AMA revealed the results of its two-year Study of the Federation at December's Interim Meeting in Washington, D.C.

The study was conducted by a group of physicians and medical association executives from all levels of the federation. Norman L. Dunitz, MD, Tulsa, and Jay A. Gregory, MD, Muskogee, represented Oklahoma.

The group presented an extensive report on how best to position organized medicine to deal with the challenges it will face in the coming years. Primary recommendations were that the federation's current structure (county, state, AMA, and specialty societies) should remain essentially unchanged, but that representation, particularly at the national level, should change. The report recommended reducing the representation of state medical associations in the AMA House of Delegates, while increasing that of specialty societies. The states would still have a clear majority, but specialty societies, which now have only one vote each, would gain delegates in proportion to their number of members. The change is intended to make the AMA House of Delegates more representative of the profession as it is today and as it is expected to become in the foreseeable future (i.e., specialty oriented, with more group practices, managed care, etc.).

The AMA House agreed in principle with a restructuring, but thought it premature to adopt the comprehensive report without first getting input from state, county, and specialty organizations. The House did not adopt the report as presented but instead adopted a set of general guidelines and called for further study and debate. The study group was instructed to provide a report at the 1996 AMA Annual Meeting in June that "clarifies and provides more detail regarding specialty society representation and representation by major dimensions of a physician's professional life." Also requested were more specific details about how reorganization of the federation should be implemented, including the necessary transition steps. Input is to be sought from the federation's component groups to determine their attitudes, desires, and intent regarding the principles of the restructured federation.

Plans are being made for a forum on this issue during the OSMA Annual Meeting in April.

AMA House adopts two Oklahoma resolutions

The OSMA delegation introduced two resolutions at the December Interim Meeting of the American Medical Association, and both were adopted by the AMA House of Delegates.

The first resolution, recommending elimination of Medicare carrier Medical Directors as the only entities to make decisions on medical necessity and establishing various peer review organizations as entities empowered to make medical necessity decisions. Perry A. Lambird, MD, Oklahoma City radiologist, was the author.

The second resolution asked the AMA to support appropriate screening programs to detect colorectal cancer in individuals who are older than 50 years of age or have risk factors. William H. Hall, MD, Oklahoma City internist and gastroenterologist, was the author.

First Call for Resolutions

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates Annual Meeting must be received in the OSMA executive offices no later than thirty (30) days prior to the meeting. This year's meeting will be April 26-28 at the Southern Hills Marriott in Tulsa.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 Northwest Expressway, Oklahoma City, OK 73118. If you need assistance in drafting such resolutions, please contact the executive offices.

Resolutions must be submitted on or before March 26, 1996

Kids do the darndest things

Risk of "Little League Elbow" can be reduced, say trainers

Children who participate in youth baseball programs run the risk of "Little League Elbow." However, there are ways to reduce their risk according to a recently published literature review in the fall issue of the *Journal of Athletic Training*. The *Journal* is published quarterly by the National Athletic Trainers' Association (NATA).

Health awareness in the United States has resulted in sports activities among all age groups; even some young children are participating in rigorous fitness training programs. Twenty million youths between the ages of 8 and 16 are in non-school, community-sponsored athletic programs.

"We are especially concerned about injuries in Little League baseball because children who participate are still developing physically and severe injury at this age can have long-term consequences," explained Michael J. Wells, MS, co-author of the review and a medical student at the University of Illinois in Rockford.

Inexperience hurts

The article reports that the elbow is injured more frequently than any other part of the body when children and adolescents play baseball.

"Little League Elbow results from repetitive stress on the elbow during overhead throwing," explained certified athletic trainer Gerald W. Bell, EdD, co-author of the report and director of the Sports Injury Research Lab, Department of Kinesiology, University of Illinois at Urbana–Champaign.

The authors explain that the pitching motion is not a natural act.

"And poor mechanics, along with a developing elbow complex, leave young and inexperienced pitchers susceptible to Little League Elbow," said Bell.

The elbow in children is composed of epiphyseal or "growth" plates that continue to develop until age 17.

"Little League Elbow is centered around the growth plates in the pitching arm," pointed out Wells. "And the epiphyseal line has been identified as the weakest link in an adolescent's muscle-tendon unit due to the rapid period of

Listen up, weekend warriors

Certified athletic trainers discuss best type of ankle support

Sprained ankles plague athletes in all sports, and athletic trainers use a variety of materials to provide ankle support that might help to prevent the sprains. This support comes in the form of cloth ankle wraps, combinations of elastic and non-elastic tape, non-elastic adhesive tape and—most recently—commercially produced ankle braces.

But which of these protective devices provides the most protection for athletes? According to a recent study in Montreal, the commercial braces may be the best answer for athletes involved in prolonged periods of rigorous activity. The study was published in the fall issue of the *Journal of Athletic Training*, a quarterly publication from the National Athletic Trainers' Association (NATA).

Tape or brace?

The study was one of the first to examine the effects of tape and braces over extended periods of activity.

"In most earlier research, data was collected soon after the tape or braces were placed on the ankle," explained certified athletic trainer David L. Paris, PhD, co-author of the study and associate professor/athletic therapy coordinator, Department of Exercise Science, Concordia University.

"We examined the effects of support after periods of 15, 30, 45, and 60 minutes of activity."

The researchers tested two different commercial braces and tape on 30 volunteer male undergraduate students who had experienced no ankle injuries for at least six months before the study.

"The braces and tape all offered significant ankle support before the students started their activities," explained Paris. "However, the braces tended to offer more support after activity than the tape did.

"We believe that tightening the braces after five minutes of warm-up will provide even more support for athletes. And further adjustments can be made easily during practice or at half time, time outs, and between periods during competition.

"A similar readjustment on taped ankles would be much more difficult since athletes would have to remove their shoes and socks, and an athletic trainer with a table or bench would need to be readily available," Paris added.

Try different brands

The study's co-authors suggested that athletic trainers, coaches, and others involved in working with athletes experiment with the various commercial braces on the market because different brands may offer more or less support during the course of athletic activity.

Co-authors of the study with Paris were faculty lecturer Vassilios Vardaxis, Department of Physical Education, McGill University in Montreal; and certified athletic trainer Jimmy Kokkaliaris, Department of Exercise Science, Concordia University.

A copy of the complete study as published is available from Kay Barkin, 214-528-6023.

growth which leaves the tendons and ligaments tight on lengthening bones."

Major rule changes in Little League baseball in 1972 substantially reduced the number of reported elbow injuries, but children are still susceptible to the problem if proper precautions are not taken.

To reduce the risk of "Little League Elbow," Wells and Bell recommend preseason stretching and strengthening programs.

Warm up to throw

"We're not the first to say 'warm up to throw, don't throw to warm up,' " said Bell. "Stretching and general calisthenics allow sufficient warm-up before throwing activity begins.

"Pre-season training should gradually increase the number, distance and intensity of throws. And there should be no pitches thrown by a player from the mound until well into the second week of practice."

The authors recognize that the Little League has restrictions on the number of innings pitched.

"But we believe it is more important to count the pitches," said Wells. "And more pitches are thrown during the week in practice than in a single game. We agree with those who have set reasonable limits in the range of 90 to 100 pitches per game or practice—barring elbow or shoulder pain.

"If discomfort arises, activity should stop and throws should decrease for the following few days. If pain persists, we recommend total rest. After three days of pain, the child's parents should consult a physician.

"Before returning to competition, the player should display a full recovery of strength, range of motion, and pain-free throwing."

The authors also recommend evaluating and correcting pitching techniques and educating key individuals—including coaches, parents and the athletes themselves—on "Little League Elbow."

If the condition does occur, initial treatment involves resting the elbow joint and applying ice to alleviate pain, swelling, and inflammation.

"Athletic activities should stop until elbow tenderness has disappeared and the individual can complete a throwing motion with no pain or discomfort," said Wells.

"Treatment should also include stretching and strengthening exercises of the forearm muscles.

"Throwing activities should be restarted gradually—and an elbow sleeve might be worn for support."

A complete copy of the report as published may be obtained by calling Kay Barkin, 214-528-6023.

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HEALTH DEPARTMENT

Tick-borne illness increasing in Oklahoma

Rocky Mountain spotted fever (RMSF) has been a fairly significant cause of illness in Oklahoma for the past 20 years, with an average of 88 cases per year. However, there has been a decline in the number of reported cases for the last two years. In 1993, 51 cases were reported; in 1994 only 39 cases were confirmed.

Persons in the eastern and central counties are more frequently affected. The seasonal distribution of RMSF corresponds to increased outdoor activity, with June the peak month for onset of symptoms. The etiological agent *Rickettsia rickettsii* has been found naturally in the dog tick and the Lone Star tick, both native to Oklahoma.

Lyme disease is now the most common vector-borne infection in the United States. In Oklahoma, the agent *Borrelia burgdorferi* has been isolated from the black-legged tick and the "winter tick." Oklahoma reported 99 cases in 1994, which is a *421%* increase over 1993. The increase may reflect the introduction in February 1994 of a more sensitive test for Lyme disease, which resulted in more individuals meeting the Center for Disease Control and Prevention (CDC) case definition.

Tularemia, caused by the bacterium *Francisella tularensis* and often referred to as rabbit fever, is frequently associated with tick exposure. In the United States, *F. tularensis* is found predominantly in the dog tick, wood tick, and Lone Star tick. Tularemia is infrequently reported in Oklahoma, with only 16 cases in 1993 and 3 in 1994.

Two emerging tick-borne diseases caused by *Ehrlichia spp.* have been recognized in the United States: human ehrlichiosis due to *Ehrlichia chaffeensi*, recognized in 1986, and human granulocytic ehrlichiosis (HGE), recognized in 1993. The vectors for ehrlichiosis in Oklahoma are the deer tick, the American dog tick, and the Lone Star tick. Clinical symptoms include fever, headache, malaise, muscle aches, chills, sweating, nausea, and vomiting. Infrequently a macular or papular rash may occur on the body. (Testing can be arranged with the CDC through the Public Health Laboratory at the Oklahoma State Department of Health.)

Persons place themselves at risk for tick-borne illness by participating in activities such as camping, hiking, hunting, and working outdoors. Precautionary measures are recommended to prevent tick-borne diseases: use tick repellents containing the ingredient DEET (for skin) and/or repellents containing permethrin (for clothing only), and conduct "tick checks" every two to three hours if spending a lot of time outdoors. All ticks attached to the body should be removed immediately. Using a pair of tweezers, slowly pull the tick straight out—no twisting—then wash hands thoroughly. J

■ **Ron O. Gilcher, MD, president and chief executive officer of the Oklahoma** Blood Institute in Oklahoma City, has received the Bernice Hemphill Award from the American Association of Blood Banks (AABB). Formerly the Outstanding Administrator Award, the Hemphill Award recognizes an individual who has made significant contributions through the AABB to enhance the effective administration of blood banks. Gilcher was cited for outstanding administrative foresight and visionary leadership. J

LETTERS

The doctor needs a doctor

To the Editor: When I read Dr. Harvey Blumenthal's article "The Patient Needs a Doctor" (JOURNAL, Nov. 1995), I felt he was articulating my own thought, borne of my experience the past 13 years with a failing back. After those years of dealing with insurance companies, social security disability and Medicare, with five back procedures and one sigmoid colectomy (luckily I only had one sigmoid), seven years bed to chair, chronic severe disabling pain, I feel as welcome in a doctor's office as a priest does in a whorehouse.

I am personally fond of the many physicians that cared for me, but not wanting to seem magnanimous, I felt they fell far short of the standards I set for my practice—standards I tried to uphold for 30 years of training and practice. I actually took the Hippocratic Oath seriously. I wonder if anyone takes any oath seriously in this hedonistic culture today.

As a patient, there were so many people and organizations between my doctor and me I sometimes felt like a puppy accidentally left at the last rest stop. In fact, I somehow feel that way now, as my last committee of doctors said goodbye when I signed my Medicare papers and a "promissory note to pay the gap."

And speaking of paying the gap, whatever happened to professional courtesy? In my day most doctors did not charge other doctors, their families, preachers, or nurses; usually gave discounts to teachers; and did not bill people who were having trouble buying their baby formula. Back then, however, most of us had only one Cadillac or Mercedes. Heck, I just paid my former partner $40 for a prostate examination. I don't know if I got a discount or not. It did feel like he did a good job, so I'm not complaining.

In 1988, I went out of state and I made a committee of doctors and physical therapists $30,000 richer by lending them my body for three weeks. After paying their psychiatrist $185 for a 12-minute visit (billed out as "initial protracted consultation"), I was turned over to a group of physical terrorists. The first day

they insisted on me "maxing" on one of their machines. I told them I had been in bed seven years, was osteoporotic, and I might compress a vertebra. They demanded I do it anyway (it was part of their protocol). I did and spent the rest of the day under an ice rub for "popped facet joint." I finally got an x-ray after three weeks of a gosh-awful painful 10-hour-per-day rehabilitation program. A 60% compression of L-1 showed up on a chest x-ray I had gotten for a persistent cough I contracted at the rehabilitation center. Boy, did I ever need a doctor. I've decided it's somewhat like being lost at sea with water, water everywhere but not a drop to drink.

Next time I feel like being rehabilitated, I'll take my money and go mountain climbing in Colorado—something not so hazardous and a lot more fun.

I still need a doctor and guess now I'll have to find one that didn't read this letter.

—James S. (Jim) Turner, MD (Ret)
Edmond

Epinephrine saves lives

To the Editor: A needless death—Doug Milner.*

Thousands of other deaths (such as Lawrence Stern, the past editor of the *Washington Post)* are needless. Why are they needless?

1. Because of a lack of education concerning the use of epinephrine (adrenaline) that can be used in the case of a reaction to an insect sting to prevent death in the event of anaphylactic reaction.

2. The failure of states to pass legislation to allow laymen to administer epinephrine. I have worked to educate laymen and get laws passed in states to allow laymen to administer epinephrine. Everyone should have an emergency epinephrine kit. As a lone crusader, I have been able to get legislation passed in 20 states. Texas, where Mr. Milner lived, is not one of these states. Death from a severe anaphylactic reaction can occur in five minutes, which is insufficient time to get to medical aid. Doug Milner was unconscious within minutes. Epinephrine (adrenaline) is the only treatment that will save a person suffering an anaphylactic reaction.

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—Claude A. Frazier, MD
Asheville, NC

**Doug Milner, a Dallas-based photographer, died last November from an allergic reaction to a wasp sting. He was 37 years old.*

■ **Internet surfers might** want to note the following new Web site for the Alzheimer's Disease Education and Referral Center (ADEAR), now offering publications and research news: http://www.alzheimers. org/adear. ADEAR offers the text of selected publications and the opportunity to order many others via e-mail, free of charge. Also posted are announcements from the National Institute on Aging (NIA) regarding research findings about Alzheimer's disease. The NIA is one of the National Institutes of Health.

DEATHS

James Kendall Boyd, MD
1916 - 1995

Dr. James K. Boyd, retired Tulsa pathologist and cytologist, died November 21, 1995. Born in Fort Smith, Ark., Dr. Boyd was a graduate of the University of Tennessee College of Medicine, earning his medical degree there in 1942. He served his internship in Shreveport, La., and pathology residency in Tulsa; Clayton, Mo.; New Orleans; and Richmond, Va. In 1957 he returned to Tulsa to establish his practice there.

Hollis Eugene Hampton, Jr., MD
1925 - 1995

Durant native and OSMA Life Member Hollis E. Hampton, Jr., MD, died in Oklahoma City December 1, 1995. Dr. Hampton was graduated from the University of Oklahoma College of Medicine in 1948. After completing an internship in Indianapolis, Dr. Hampton returned to Oklahoma City for a general residency. After a year of private practice in Antlers, he enlisted in the U.S. Air Force during the Korean conflict, achieving the rank of captain in 1952. He then returned to Indianapolis to complete a residency in obstetrics and gynecology. In 1957, Dr. Hampton opened an ob-gyn practice in Oklahoma City and was in practice for some 28 years before retiring in 1985.

Herman Carter Moody, MD
1921 - 1995

OSMA Life Member H. Carter Moody, MD, died December 8, 1995, in Oklahoma City. Dr. Moody, a general surgeon, retired in 1990 after more than 30 years in practice. He was born in Moody County, Ga., served at Will Rogers field during World War II, and was graduated from the University of Oklahoma Medical School in 1952. He interned at Mercy Hospital in Oklahoma City and did his surgical residency at the V.A. and University hospitals, also in Oklahoma City.

■ *The Internist's Guide to Practice Integration* has just been released by the American Society of Internal Medicine (ASIM). The book is a comprehensive text for internists and internal medicine specialists interested in or implementing a practice integration. The guide provides advice on how to set up relationships such as physician hospital organizations and group practices without walls; assessing the market situation and current practice goals; and how to decide whether to sell or merge a practice, hold tight, or join an integrated system. Also included are charts, tables, and worksheets on developing and implementing a business plan; sources and issues related to financial capital partners and funding sources; how to assess the value of a medical practice; and what to look for when negotiating contracts and compensation. The book is the second in the ASIM's new series "Strategies for Success in Managed Care." To order either or both publications, call 202-835-2746, ext. 253.

IN MEMORIAM

1995

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Wallace Byrd, MD ..... January 25
Herbert Victor Lewis Sapper, MD ..... January 26
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John B. Miles, MD ..... March 31
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Wiley T. McCollum, MD ..... May 13
Gerald Leon Honick, MD ..... May 24
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Henry Washington Harris, MD ..... June 2
Joan Kazanjian Leavitt, MD ..... June 13
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William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
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Malcolm Millison, MD ..... October 8
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8

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I'm a practicing physician and I want my patients to know that Medicare will go broke by 2002 unless it's fixed now. The AMA has been working 10 years on ways to improve Medicare. Now Congress is about to act, and you need the straight story about what is really going on. Here are answers to questions patients ask me the most about the Medicare mess.

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The House Leadership has a plan that makes sense, tackles the hard financing problem and is good for patients. Most important, spending per person will *still* rise from $4,800 to $6,700 in 2002.

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Please contact your Representative and ask him or her to support the House Leadership's legislation to strengthen Medicare.

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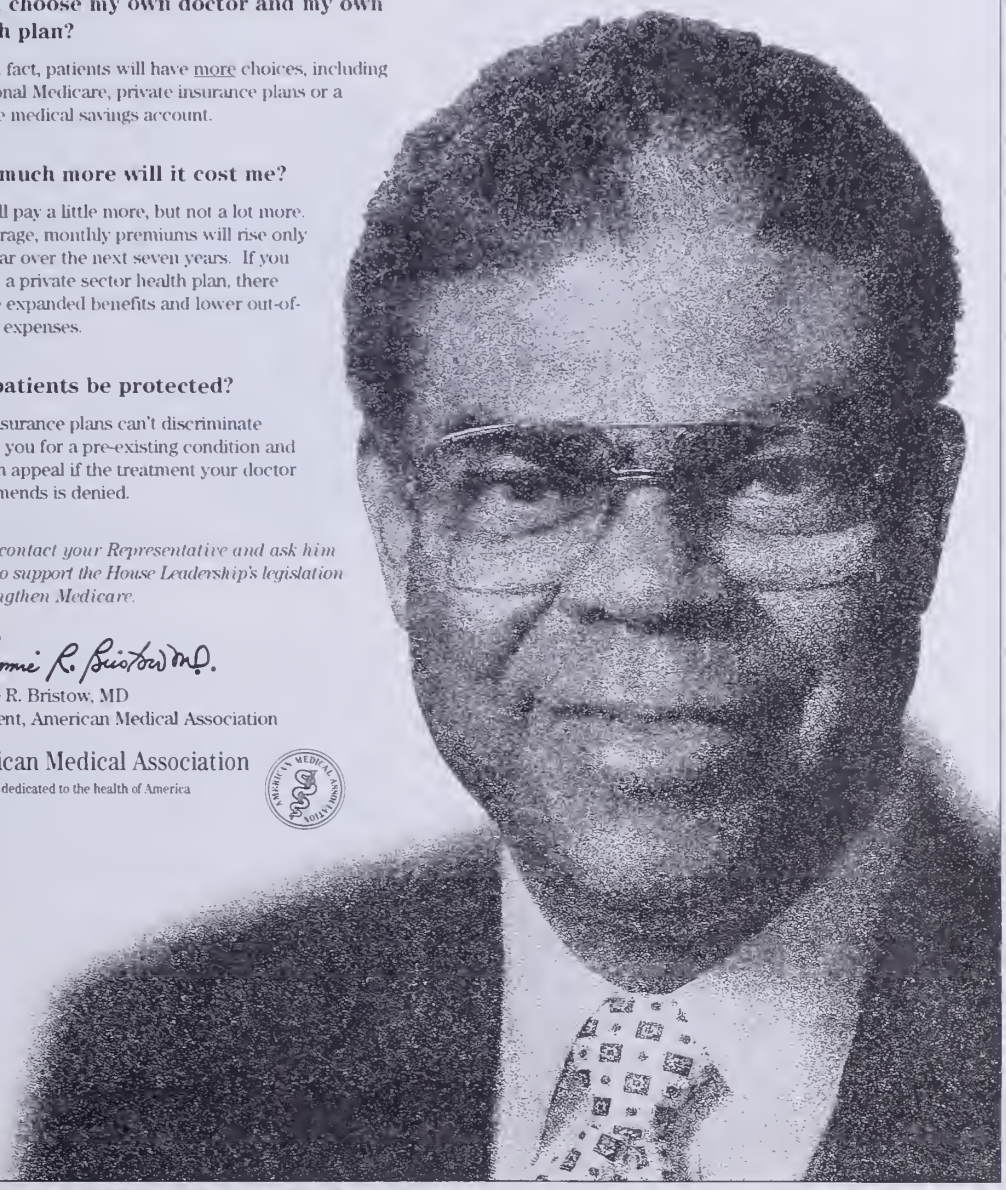

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Additional copies of the directory may be ordered using the form provided in the directory, or by calling Toni Farrar at the OSMA, 405-843-9571 or 1-800-522-9452. Copies are $25 each for members and $50 each for non-members. Bulk orders of 10 copies or more will be $25 per copy. Checks payable to the OSMA should accompany all orders.

■ **Chester W. Beam, MD, Oklahoma City, has been** named chief of staff for St. Anthony Hospital. Beam, a certified radiologist, earned his medical degree at the University of Oklahoma and did his postgraduate training at St. Anthony. He is a member of the Oklahoma State Radiological Society and has served as president, vice-president, and treasurer of that organization. From 1991 to 1993 he was chair of the hospital's Department of Radiology and in 1994 was chair of the Department of Diagnostic Services.

■ **A series of CPT coding seminars, sponsored by the** OSMA Council on Member Services, is underway. The course is designed for both new and experienced medical office personnel. Each morning session (8 AM to noon) will concentrate on changes in the 1996 CPT and ICD-9-CM codes. These sessions are designed for experienced personnel; the cost is $40 per person.

Afternoon sessions (1-5 PM) are designed for persons new to coding or needing an update. The fee for these sessions is $60 per person.

The schedule of remaining seminars is as follows: Woodward, January 17; Enid, January 18; Oklahoma City, February 7 and March 1; Lawton, February 8; and Tulsa, February 21. Registration forms have been mailed to all members, or interested parties may call Debbie Thurmond at the OSMA, 405-843-9571 or 1-800-522-9452. Those wishing to attend must register in advance; registrations will not be accepted at the door.

■ **Wondering what the OFMQ is? It's the Oklahoma Foun**dation for Medical Quality, formerly the Oklahoma Foundation for Peer Review (OFPR). The new name reflects the foundation's new mission: Encourage and facilitate cooperative efforts to continuously improve all aspects of health. The foundation was originally organized by the OSMA in 1974 to implement a new federal law requiring review of Medicare hospital admissions. Such organizations (professional standard review organizations, or PSROs) were mandated in every state. The focus of such organizations has evolved over the years from retrospective review to concurrent review and from hospital care to nursing home and ambulatory care. With Medicare being privatized and evolving into managed care, OFMQ's new focus will enable it to provide independent review to both public and private institutions.

■ **Kenneth L. Evans, MD, Oklahoma City, has been elect**ed chairman of the board for the American Academy of Family Physicians (AAFP). The role of the academy is primarily educational, with each of its 80,000 members undergoing recertification as a family physician every six years. Evans is a clinical associate professor in the Department of Family Practice at the University of Oklahoma and a faculty member and rural health coordinator of the family residency program at St. Anthony Hospital. He is also a past president of the Oklahoma Academy of Family Physicians and a trustee of the American Academy of Family Physicians Foundation.

■ **Heather K. Geis, MD, Oklahoma City, has been named** medical director of child and adolescent services at St. Anthony Hospital's Behavioral Health Center. Geis earned her medical degree at the University of Oklahoma in 1985 and completed her internship and residency in psychiatry and behavioral sciences from 1985 to 1989. She later completed a two-year fellowship in child and adolescent psychiatry.

■ **The Oklahoma Rheumatology Association's Annual** Scientific Meeting will be held from 9 AM to 2 PM on Friday, February 16, 1996, at the Oklahoma Medical Research Foundation in Oklahoma City. The meeting will include the 1996 William K. Ishmael Lectureship. This year's Ishmael lecturer, sponsored by the University of Oklahoma Department of Medicine, will be Gary Hoffman, MD, of the Cleveland Clinic Foundation. His topic will be vasculitis. Other speakers will be Mike Sneller, MD, of the National Institutes of Health, speaking on Wegener's granulomatosis, and John Cush, MD, University of Texas Southwestern Medical Center. His topic will be lupus cerebritis. Questions about the meeting should be directed to the Arthritis Foundation at 405-521-0066.

■ **The National Rural Health Association will hold its** 19th annual national conference, "Keeping Rural Healthy—A Community Challenge," May 15-18, 1996, at the Hyatt Regency Minneapolis Hotel in Minneapolis, Minn. The conference is designed to develop practical skills and techniques in health services administration, organization, and research; present practical clinical sessions of interest to rural health providers; showcase current policy issues affecting rural health services; and report the results of research applicable to rural health service administrators and providers. For registration information, contact the NRHA, One West Armour Boulevard, Suite 301, Kansas City, MO 64111, telephone 816-753-3140.

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EDITORIAL

To Arms! To Arms! 43
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE

A Tribute to Mike 45
L.L. Long, Oklahoma City

SCIENTIFIC

Irritable Bowel Syndrome: A Study to Investigate the Mechanism(s) of Visceral Hypersensitivity 47
B. Greenwood, S. Rodriguez, D. Decktor, P.N. Maton, M. Robinson; Oklahoma City

Reducing the Risk of Cartilaginous Supratip Deformities 51
S.E. Gilbert, Tulsa

The Endoscopic Diagnosis of Pyloric Stenosis 58
G.K. Donovan, A.J. Yazdi; Tulsa

Management of Esophageal Coins in Children by Bougienage: A Case Report 60
J.D. Haines, Jr., Skiatook

NEWS

Delegates report on AMA meeting, 63... Trustees approve Journal publication policy, 66...

DEPARTMENTS

Health Department, 68... Capsules, 69... In Tribute, 69... In Memoriam, 69... Deaths, 70... Classifieds, 71... Instructions for Authors, 78... Alliance, 79... The Last Word, 80

ABOUT THE COVER

Detail from a painting by Ghazi M. Rayan, MD, Oklahoma City hand surgeon. Dr. Rayan also shot the slide used to produce this cover art.

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To Arms! To Arms!

Annually, the Oklahoma Legislature meets and files several thousand bills to be possibly enacted into law. Some wiseacre has said: **"No man's estate is safe while the legislature is in session,"** and this quip may be especially pertinent nowadays to Oklahoma physicians.

Many legislators have an increasing interest in legislating the details of medical care, and many ancillary practitioners seek an increasing share of the health care dollar via the legislative route. Currently, managed care regulation and the nurse prescription initiatives are prominent examples, but there are many other proposals relating to the practice of medicine. Several hundred bills affecting medicine are now in the hopper. Only a few of these bills had physician input during drafting.

The OSMA staff and Dr. Ed Brandt's Council on State Legislation and Regulation have done a yeomanly job in responding to this flood of pointed arrows. The needs of Oklahoma patients and of physicians have been excellently represented by the efforts of the council and the OSMA staff. But the flood increases, an active legislative session is now underway, and the people of Oklahoma need a greater input from their physicians into the process of writing the laws that change health care delivery.

While Dr. Brandt's council does everything possible to put the OSMA in a rational and reasonable position on these medical bills, many legislators think that most physicians are indifferent to these medical issues since individual physicians rarely comment on them. This perception of physician indifference prevalent among the legislators must be overcome if medical wisdom is to be integrated into these ever changing laws. Individual physician contact with individual legislators must be increased in order to supplement, complement, and add to the work of our lobbyists and to OSMA council efforts.

Every Oklahoma physician should resolve to study several bills with medical implications and then to personally contact those legislators interested in the bill, plus the physician's "own" Senator and Representative. We should offer specific constructive discussion of the effect of the proposed law on the people of Oklahoma. Most bills are modified, and some are improved, during the legislative process. Many bills either live or die as a result of the criticisms that come in from interested constituents during the legislative session.

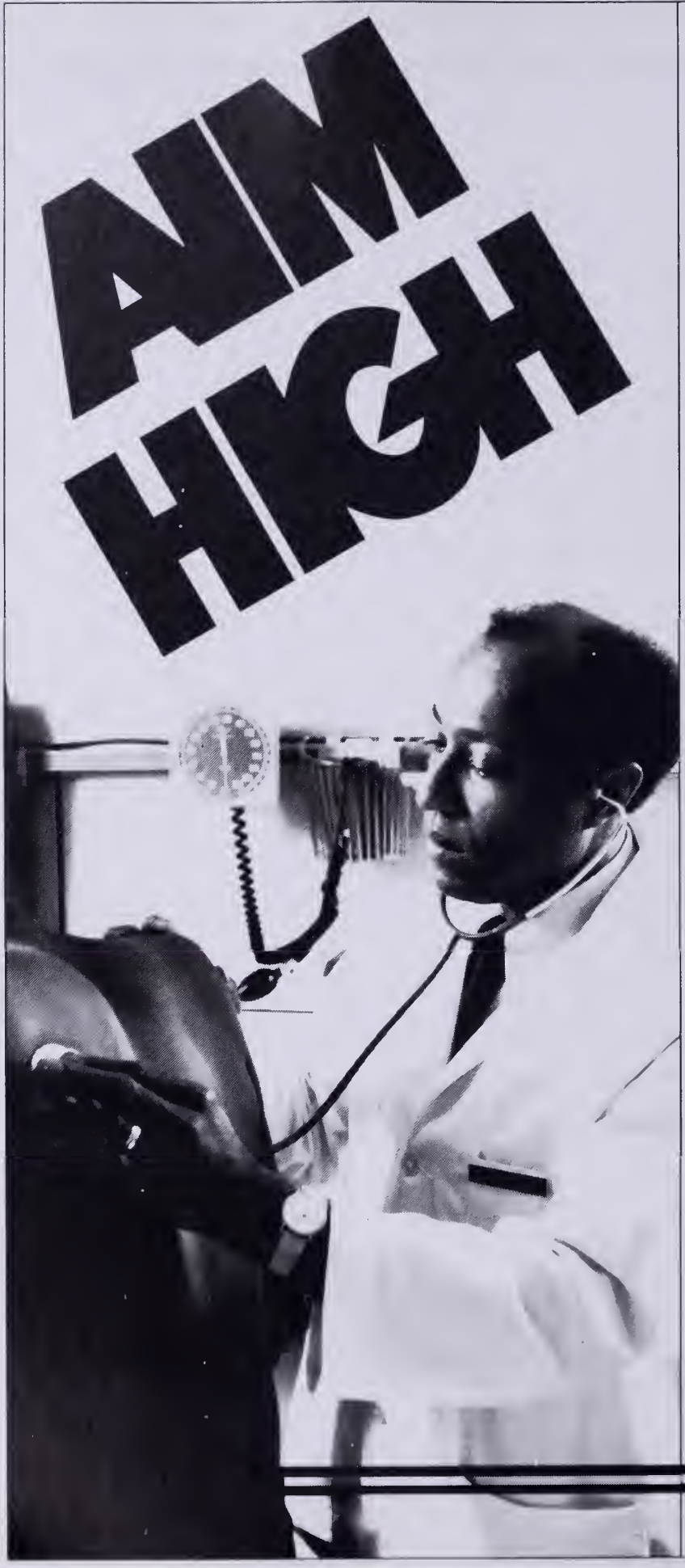
Every physician has a State Senator and Representative who eventually will vote on these bills that are changing medical practice in Oklahoma. Every practicing physician who has read a medical bill has expert knowledge of those bills' probable effects that the legislators need to hear. Every legislator should know what their physician constituents think of every medical bill *before* the vote.

Call or write your legislators!

Or we shall practice medicine under medical statutes that have been drafted by laymen and lawyers who know nothing of medicine and very little about patient's medical needs.

Several hundred bills affecting medicine are now in the hopper. Only a few of these bills had physician input during drafting.

Kay V. McIntyre, M.D.



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AIR FORCE

A Tribute to Mike

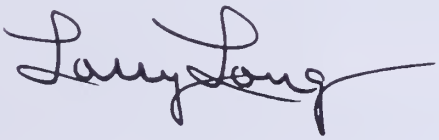
I think we were all aware recently that flags, both public and private, were flown at half-staff in tribute to former Congressman Mike Synar who died recently as a result of brain cancer.

I well remember my first encounter with Congressman Synar over ten years ago. We made one of our regular Congressional trips to Washington, DC, and had an opportunity to meet with the Congressman in his office. Our small group was called in to his office. The office was quite small and appointed rather unpretentiously. I remember a large sofa on one wall and a large overstuffed small sofa on the adjacent wall. The Congressman had a large old roll-top antique desk and an antique type of chair that matched the desk quite nicely. He was dressed in his usual manner, with his highly polished custom-made boots, a white shirt and tie, and suspenders. He assumed a laid-back position in the old chair with his boots resting comfortably on the desk. Of our group, I was the one seated the most closely to the Congressman.

The conversation at that time revolved around the fact that physicians were being reimbursed at 50 cents on the dollar for their services. Our conversation with the Congressman was with regard to that particular reimbursement rate. I made the proposal that if senior citizens were paying 50 cents on the dollar for health care, it might be appropriate that they pay 50 cents on the dollar at the local grocery store, for natural gas, or for gasoline for their car. I can well remember to this day the Congressman's reaction to my proposal. He glared at me and did not respond as he gave the indication that the proposal was so preposterous it did not deserve a reply.

This initial meeting pretty well set the tone for the remainder of our relationship while the Congressman was in office. Although he was not a particular friend of organized medicine in Congress, he was a staunch advocate and supporter of his constituents back home in the Second District. The vast majority of his constituents were of Medicare age and Congressman Synar relished the reputation of being almost militant in preserving the rights of senior citizens.

He was classified as a Democratic liberal, which I think fit his philosophy rather appropriately. Although Congressman Synar came from a family that included a number of physicians, we were never able to consider the Congressman a friend of organized medicine. I did develop a profound respect for the Congressman's integrity and the strength of his principles. I don't think he ever failed to remember who his true constituency was and was truly dedicated to representing to his ability their best interests. To do for others as we would have others do for us.



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Irritable Bowel Syndrome: A Study to Investigate the Mechanism(s) of Visceral Hypersensitivity

Beverley Greenwood, PhD; Sheila Rodriguez, PhD; Dennis Decktor, PhD; Poul N. Maton, MD; Malcolm Robinson, MD

Irritable bowel syndrome (IBS), is characterized by gastrointestinol hyperalgesia. In this study we investigoted mucosal application of dyclonine on urge to defecote and pain threshold in volunteers ond IBS potients (n=10). Either soline or dyclonine (40 ml enema) was odministered 10 minutes prior to rectosigmoid distension or cutoneous cold woter pressor test. In IBS potients and volunteers no differences in cutoneous poin thresholds were noted. However, IBS potients had o lower pain threshold in the rectosigmoid than volunteers. In volunteers there was a significant difference between the threshold for urge to defecate and the threshold for rectosigmoid pain thot was not opponent in IBS patients. Dyclonine odministered directly into the rectosigmoid did not olter urge to defecate or poin threshold induced by distension in volunteers or IBS potients. These doto suggest that the origin of poin perception is locolized in deeper structures within the woll of the rectosigmoid colon.

Irritable bowel syndrome (IBS) represents s significant clinical problem for which there is currently no effective therapy.[1] Recurrent abdominal pain and abnormal bowel habits represent the major complaints in these patients. Although the etiology and pathophysiology of functional bowel disorders are unknown, heightened visceral sensitivity has been implicated in the production of symptoms in these patients.[2] Evidence in support of this hypothesis is that in patients with IBS, distending a balloon in the rectosigmoid induces abdominal pain which resembles their naturally occurring abdominal pain. Furthermore, in these patients the pain occurs at lower volumes of balloon distension than in healthy volunteers.[3,4] More recently, others have found that patients with IBS also may have abnormal visceral perception in the esophagus, small intestine, and bile duct as well as the rectosigmoid.[5-8] Taken together these observations suggest that normally non-painful stimuli appear to induce pain in patients with functional bowel disorders.

The hypothesis to be tested in our study was that lowered mechanoreceptor thresholds may account for the heightened visceral perception in the rectosigmoid of patients with IBS. To test this hypothesis, we examined the effect of dyclonine-induced surface anesthesia of the mucosal lining of the rectosigmoid on pain thresholds in control subjects and patients with IBS.

Methods

Subject Characteristics.—Five asymptomatic volunteers (2 males and 3 females) with a mean age of 36 ± 2.3 years (age range 27 to 40 years) with no history of gastrointestinal disease or gastrointestinal complaints or use of any medication that might affect the gastrointestinal tract were enrolled in the study. Five patients (1 male and 4 females) with a mean age of 36 ± 5.4 years (age range 25 to 56 years) and previously diag-

From the Oklahoma Foundation for Digestive Research, Oklahoma City.
Part of this work was previously reported in abstract form in 1993 at the American College of Gastroenterology meeting in New York.
Direct Correspondence to Beverley Greenwood, PhD, Oklahoma Foundation for Digestive Research, Presbyterian Hospital, 700 Northeast 13th Street, Oklahoma City, OK 73104.

nosed with IBS for at least 6 months were studied. IBS was defined using criteria developed by Manning in 1978.[8] The patients all had abdominal pain relieved by bowel movements, plus at least two of the following five symptoms.

1. Loose stool at the onset of pain
2. More frequent bowel movements with the onset of pain
3. Abdominal distension
4. Passage of rectal mucus
5. Frequent feeling of incomplete evacuation

In patients with IBS, drugs known to affect the gastrointestinal tract were stopped 7 days prior to entry into the study. Pregnant or lactating women were not considered for this study, and female patients of childbearing potential had a negative pregnancy test at entry. All subjects signed an informed consent that was approved by the Western Institutional Review Board.

Prior to entry into the study, all subjects underwent a history and physical examination and full laboratory evaluation. Stool specimens were tested for blood, ova, and parasites.

Study Design.—A randomized single-blind crossover design was employed to evaluate the effect of intrarectal administration of saline (0.9%) or dyclonine HCl (0.5%) in a 40 ml enema. Ten minutes later the balloon positioned in the rectosigmoid was distended in increments of 5 ml up to 300 ml of distension. After each distension step the subjects were asked to report on the sensation they experienced. The volume of balloon distension required to produce rectal urge threshold and rectosigmoid pain thresholds were documented in both the volunteers and patients with IBS.

To compare the sensation and pain thresholds in other visceral structures with those in the rectum and rectosigmoid, the subjects also underwent assessment of esophageal sensitivity to balloon distension. The esophagus was distended by an air-filled balloon in increments of 1 ml.

To measure pain tolerance in a non-gastrointestinal system, cutaneous threshold and pain thresholds were determined using the cold pressor test. Subjects were asked to immerse their right hand in a mixture of ice and water and hold it there for as long as possible. The time that the hand remained in the ice and water mixture was measured with a stopwatch and noted manually on a data sheet. If the subject did not withdraw his/her hand within 4 minutes, a value of 240 seconds was recorded.

Drugs.—A topical solution of the local anesthetic dyclonine HCl (Astra Pharmaceutical Products, Inc., MA) was administered as an enema. Previous experience with dyclonine HCl during endoscopic procedures indicated that effective anesthesia occurs within 10 minutes and persists for at least another 30 minutes.

Statistical Analysis.—Results are expressed as mean ± standard error of the mean (sem). Statistical significance was assessed using Student's t-test for paired or unpaired observations where appropriate. All p-values were two-tailed with a p value of < 0.05 being considered statistically significant.

Results

As expected, IBS patients demonstrated a significantly lower pain threshold in the rectosigmoid upon balloon distension compared to normal volunteers (Fig. 1). As shown in Table 1, unlike normal volunteers, IBS patients did not exhibit a significant difference between thresholds for urge to defecate and pain.

Effect of Dyclonine.—Intrarectal dyclonine did not alter the sensation of persistent urge to defecate or the pain threshold in either IBS patients (Figure 2A) or normal volunteers (Figure 2B).

Figure 1.
Rectosimoid Pain Threshold (ml)

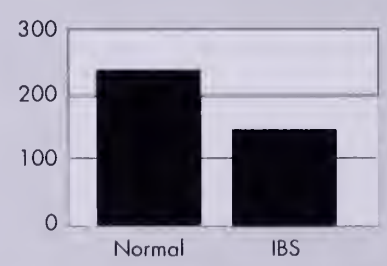

Figure 1. The effect of rectosigmoid bolloon distension on rectosigmaid pain thresholds in normal volunteers and patients with irritoble bowel syndrame. The groph illustrates that patients with irritoble bawel syndrome experience pain at lower volumes of ballaan distension campared to normol volunteers.

Table 1.
The Effect of Rectosigmoid Balloon Distension on Rectol Urge Threshold ond Rectosigmaid Pain Thresholds in Normol Volunteers and Patients with Irritable Bawel Syndrome

	Normal (ml)	IBS (ml)
Rectal Urge Threshold	148 ± 29	160 ± 42
Rectosigmoid-Pain Threshold	223 ± 34	144 ± 22

Extracolonic Effects.—All subjects underwent assessment of sensitivity to esophageal distension. Distension with air of a balloon in the esophagus induced a sensation in normal volunteers at balloon volumes of 7.6 ± 0.5 ml in normal volunteers and 5.3 ± 0.8 ml in IBS patients (n=5). Intraesophageal balloon volumes up to 10 ml did not induce pain in either group of subjects.

No statistically significant difference between normal volunteers and IBS patients were observed in the cold pressor test (normal volunteers = 161 ± 59 seconds; IBS patients = 127 ± 50 seconds).

Discussion

Although the underlying mechanisms responsible for IBS remain unknown, a popular hypothesis is that symptoms are due to hypermotility within the small intestine[9] or an exaggerated gastrocolic response.[10,11] Recently the motility hypothesis has been questioned, and attention has focused on disturbances in sensory pathways. Visceral stimuli, such as gut distension, activate afferent fibers in the gut wall and mucosa that then transmit sensory information via small-diameter C-fibers running in both sympathetic and parasympathetic nerves to local enteric circuits or to more distant central nervous system sites such as the brain and spinal cord. Information within these visceral afferents is then processed and initiates changes in gut effector function such as gastrointestinal motility, secretion, and intestinal blood flow.

The overall goal of our study was to test whether visceral hypersensitivity in patients with IBS is due, at least in part, to abnormalities in peripheral afferent mechanisms. The focus of our study was to compare the functioning of gastrointestinal mucosal mechanoreceptors in normal individuals with that in patients with IBS. The purpose of the study was to determine whether the degree of sensitivity could be modified through pharmacological intervention.

In our population of patients with IBS, we found that rectosigmoid distension using an intraluminal balloon produced pain at lower volumes of distension than in healthy controls. These lowered thresholds induced by mechanical stimulation may be in part responsible for the symptoms of abdominal pain. Moreover, in patients with IBS there was no difference between the thresholds for urge to defecate and for rectosigmoid pain. This differed from normal volunteers who exhibited a significant difference between the thresholds for urge to defecate and rectosigmoid pain. Apparently rectosigmoid balloon distention in patients with IBS unmasks abnormalities in visceral perception.

In this study we also performed assessment of the subjects' sensitivity to esophageal and cutaneous pain and found that in addition to lowered sensory thresholds to rectosigmoid balloon distension, there was a trend in patients with IBS to have a lower threshold for pain induced by esophageal balloon distension. In contrast, the same population of IBS patients had normal somatic pain thresholds in the cold pressor test, which confirms the work of Cook and coworkers.[12]

In the current study we found that the lowered rectosigmoid pain in patients with IBS was not altered by intrarectal administration of dyclonine, a local anesthetic. Therefore in light of our findings, we believe that lowered mucosal mechanoreceptor thresholds are unlikely to account for the heightened visceral perception that is observed in the rectosigmoid of IBS patients. Other potential mechanisms responsible for visceral hyperalgesia include central sensitization at the level of the spinal cord or the brain or both. The lack of

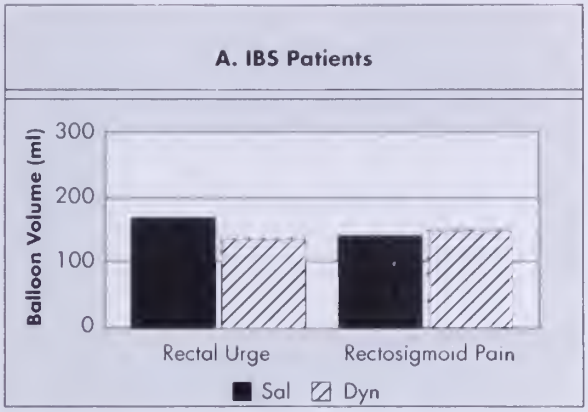

Figure 2a

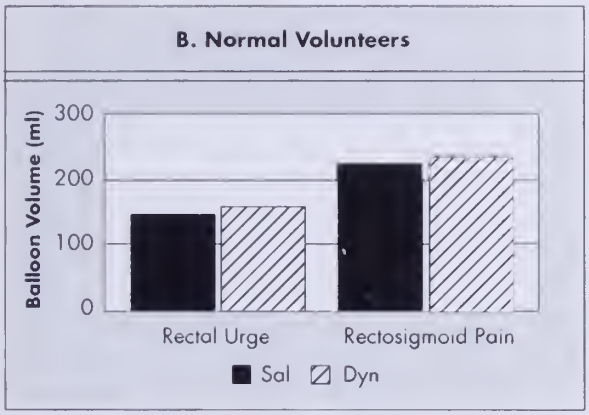

Figure 2b

Figure 2. The effect of rectosigmoid balloon distension on rectal urge threshold and rectosigmoid pain thresholds in IBS patients (a) and volunteers (b) in the presence of either a saline (Sal) or dyclonine (Dyn) enema.

effect of dyclonine in our patients with IBS raises the possibility that dyclonine is not an effective local anesthetic in the gut; however, this seems unlikely. Our findings suggest that the origin of pain perception in patients with IBS is localized in deeper colonic structures that are not inhibited by mucosal application of a surface anesthetic. Such structures may include receptors deeper within the gut wall or in the mesentery. JJ

Acknowledgments

The authors would like to thank the Presbyterian Health Foundation of Oklahoma for supporting this clinical research project.

References

1. Mendeloff AL. Epidemiology of functional gastrointestinal disorders. In: Chey WY, ed. *Functional Disorders of the Digestive Tract.* 1983, New York: Raven Press, pp. 9-13.
2. Mayer EA, Gehhart GF. Basic and clinical aspects of visceral hyperalgesia. *Gastroenterology* 1994;107:271-293.
3. Ritchie J. Pain from distension of the pelvic colon by inflating a balloon in the in the irritahle colon syndrome. *Gut* 1973;14:125-132.
4. Whitehead WE, Holtkotter B, Enck P, Hoelzl R, Holmes KD, Anthony J, Shabsin HS, Schuster MM. Tolerance for rectosigmoid distension in irritahle howel syndrome. *Gastroenterology* 1990;98:1187-1192.
5. Whorwell PJ, Klouter C, Smith CL. Esophageal motility in irritable bowel syndrome. *Br Medical Journal* 1981;282:1101-1181.
6. Lemann M, Dederding JP, Flourie B, Franchisseur C, Rambaud JC, Jian R. Abnormal perception of visceral pain in response to gastric distension in chronic idiopathic dyspepsia. The irritable stomach syndrome. *Dig Dis and Sci* 1991;36:1249-1254.
7. Kellow JE. Phillips SF. Functional disorders of the small intestine. In Snape WJ Jr, ed. *Pathogenesis of Functional Bowel Disease.* 1989. New York: Plenum, 171-198.
8. Doran FSA. The sites to which pain is referred from the common bile duct in man and its implications for the theory of referred pain. *Br J Surg* 1967;54:599-606.
9. Kellow JE. Miller LJ. Phillips SF. Dysmotility of the small intestine is provoked by stimuli in irritable bowel syndrome. *Gut* 1988;29:1236-1243.
10. Connell AM, Jones FA, Rowlands EN. Motility of the pelvic colon. IV. Abdominal pain associated with colonic hypermotility after meals. *Gut* 1965;6:105-112.
11. Narducci F, Bassotti G, Granata MT, Peli MA, Gaburri M, Palumbo R, Morelli A. Colonic motility and gastric emptying in patients with irritahle bowel syndrome. *Dig Dis and Sci* 1986;31:241-246.
12. Cook IJ, Van Eeden A, Collins SM. Patients with irritahle bowel syndrome have greater pain tolerance than normal subjects. *Gastroenterology* 1987;93:727-733.

The Authors

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Dennis Decktor, PhD. is a clinical research scientist at Johnson & Johnson Merck.

Reducing the Risk of Cartilaginous Supratip Deformities

Scott E. Gilbert, MD

One of the most dramatic results of aesthetic rhinoplastic surgery is that of a pleasing profile. Tip position, a barometer of the acceptable profile, is important to obtain a successful result. However, because of local anesthetic and surgical edema, realization of the final tip position in relation to the supratip dorsum can be deceiving. Postoperative tip drop must be considered when the final intraoperative result is reached.

Gender of the patient plays a large part in the tip position desired. Males tend to prefer straighter dorsal profiles. Females often desire a greater difference between the tip and dorsum. Achieving these results can be difficult; therefore, the purpose of this discussion is to quantify, numerically, the difference between immediate postoperative results and one-year results.

To quantify these differences, intraoperative measurements of the tip/supratip difference were made in 23 patients. These measurements were then compared with the one-year postoperative results. For female patients, the results indicate a 4 mm to 7 mm intraoperative difference to achieve a 0 mm to 2 mm postoperative difference. In males, the immediate postoperative measurement should be 3 mm to 4 mm in order to obtain a result of 0 mm to 1 mm, the ideal for a male.

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Obtaining a pleasant profile is often one of the major goals of aesthetic rhinoplasty. As beauty lies within each individual's eye, so the relationship between the tip height and the dorsal height is dependent upon what the patient considers beautiful. Video imaging can assist the surgeon and patient in determining whether a straight profile is superior for that person, or a retroussé appearance, where the tip may be 2 mm to 3 mm higher than the supratip (Fig. 1). The straight profile is often preferred by the male; conversely, the female tends to tolerate more of a difference.

Today, most patients desire the tip to be the highest point on profile. As surgeons, the next detail for us to determine is how much difference should exist between the tip and the next highest point, the supratip. This varies, as mentioned above, but lessens in importance to the final question of how much difference should be allowed at surgery to achieve this desired tip-supratip difference (TSD).

Since hump removal was first described by Dr. John Roe in 1891,[1] many poor outcomes have been a result of not anticipating postoperative tip drop. Local anesthesia injection alone can cause a great increase in tip projection. This disparity becomes even greater when combined with surgical trauma and skeletonization of the nose where the tethering effects exerted upon the tip by the relatively fixed nasal vaults are released. Therefore, a great deal of tip projection can result with no real surgery being performed. This can give one a sense of security in doing less, when a great deal more is truly indicated. It is a false security, something re-

alized a few weeks postoperatively when the patient and surgeon alike are disappointed.

Wright et al addressed the problem: "If the tip is expected to drop during postoperative healing, more hump must be removed to avoid a postoperative parrot beak."[2] Rees states, "It is usually wise to lower the cartilaginous dorsum to where it seems best, then resect another millimeter or two."[3] Sullivan et al suggest, "A slight over-reduction should be planned, especially in the female, to avoid a displeasing tip-supratip relationship resulting in a cartilaginous 'pollybeak' deformity."[4] Recommendations such as these are vague and difficult to apply to the actual intraoperative appearance.

In an effort to address these recommendations numerically, this paper proposes a measurement system at the time of surgery and its relationship to the final result one year postoperatively. Of course, actual measurements need not be made with every procedure, as one is able to develop an eye for this with experience. For the novice, however, or for that surgeon who is having problems with postoperative cartilaginous supratip deformities, measuring with the suggestions herein proposed might be helpful.

Comparisons are made between the pre-operative goal, determined by video imaging (Fig. 1) and the appearance at the time of surgery, and the final postoperative result. Figure 1 is a computer-generated image of the concept. It is understood that each individual is unique. Because of this, no one numerical value can be suggested for all patients. Indeed, the values actually are intended for the virgin nose with a cartilaginous hump but, perhaps, could be adapted for any nose.

At the conclusion of nasal surgery, it is tempting to leave a nose appearing as one would actually want it. This is dangerous because of the factors mentioned above; the true disparity will only be seen when the swelling is gone and a cartilaginous supratip deformity remains.

Soft-tissue supratip deformities are a totally different dilemma, and dealing with them has been the focus of many outstanding surgeons.[5-7] These deformities are often seen, paradoxically, when the dorsum is over-reduced and there simply is not enough nasal skeleton to support a heavy or long nasal skin-sleeve. It is interesting that the "pollybeak" deformity can result either from not

Figure 1a. Video image assists surgeon in determining desired tip/supratip difference.

Figure 1b. Preoperotoive photograph

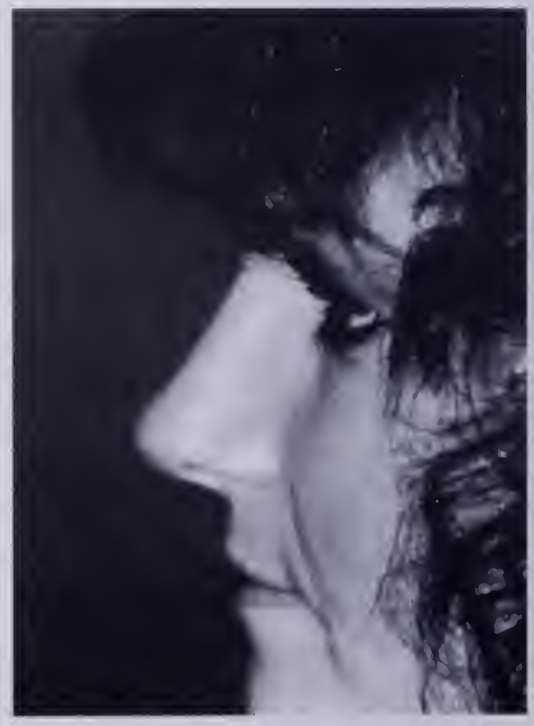

Figure 1c. Final postoperative result

Figure 2. Computer-generated image of tip/supratip change with healing.

enough cartilaginous dorsum reduction (cartilaginous supratip deformity) or from over-reduction (soft-tissue supratip deformity). The soft-tissue pollybeak is not considered in this paper. Its diagnosis and treatment are different and require, among other therapies, dorsal and tip augmentation to correct.[7] This article addresses only the difference between the tip and supratip at the time of surgery *in primary reduction rhinoplasties* to get the desired post-op result.

Females generally desire between a 0 mm and 2 mm profile. Figure 3 is a good example of a 0 mm result. A line can be drawn from the radix to the tip with no height difference between the tip and supratip. Because of differences of skin thickness, however, the underlying skeleton is actually "arched" with the superior bony dorsum and the supratip hard tissue is lower than the rhinion, where the skin is thinnest.

A more popular profile is the 1 mm. This is one of the most commonly requested profiles and is demonstrated in Figure 4. A 2-mm profile is somewhat less popular and is seen in Figure 5. This tends to begin looking too retroussé or "turned up" and is becoming less popular as the media, that mogul of public opinion, deems it so.

Figure 3. Female—0 mm TSD

Figure 4. Female—1 mm TSD

Figure 5. Female—2 mm TSD

Figure 6. Male—0 mm TSD

Figure 7. Male—1 mm TSD

Males cannot tolerate such a tip-supratip difference (e.g., Figure 6). Their preference for a straight profile dictates a 0-mm difference. Sometimes we perform 1-mm results (Fig. 7). Very rarely do we perform more, as such a result tends to feminize the final appearance.

Surgical Procedure

For reduction rhinoplasty, a transfixion incision is utilized. Bilateral intracartilaginous incisions are made and in the subpericondreal plane a dissection is carried up to the rhinion. There an incision is made through the periosteum overlying the nasal bones, which is then elevated in continuity with the dorsal nasal flap.

The tip is approached through bilateral marginal incisions and delivery techniques are used. A complete strip, double dome unit,[8] or Goldman

Figure 8a. Pre-op

Figure 8b. Immediate past-op—3 mm TSD

Figure 8c. Final result—0 mm TSD

Figure 9a. Pre-op

Figure 9b. Immediate past-op—3 mm TSD

Figure 9c. Final result—1 mm TSD

tip procedure is used, with or without struts, in order to set the tip at an adequate level.[9]

Once adequate tip projection has been produced, resection of the dorsum begins. An 11 blade is used to excise the dorsal margins of the upper lateral cartilages, as well as the dorsal septum. The bony dorsum is then reduced with rasps in order to achieve continuity with the cartilaginous reduction. Lateral osteotomies are performed. Radix grafting may be implemented at this time if warranted.

Materials and Methods

Twenty-three patients undergoing primary reduction rhinoplasty were studied prospectively. All patients underwent video imaging during consultation to determine their desired tip-supratip difference (estimated). Each patient was then measured at the completion of the procedure by placing a surgical rule at the supratip. A record was made of the difference in projection from the supratip to the nasal tip. A similar measurement was also made at a follow-up visit at least one year postoperatively.

Because of the many variables that go into achieving an acceptable postoperative result in rhinoplasty, this study was limited to virgin noses requiring hump reduction. Patients requiring tip grafts, dorsal grafts, or revisional work were not included. In addition, open rhinoplasties were excluded.

Results

There were 13 females (56.5%) and 10 males (43.5%) (Table 1). Nineteen of the 23 (82.6%) had successful results. These were divided into male and female results and then separated into three categories according to the desired TSD.

Twelve female patients (92.3%) had successful results (Table 2). Three of the 12 (25%) wished to have final result of 2 mm. In all of these patients this required leaving a 5-mm TSD at the time of surgery. Five women (41.7%) requested a 1-mm TSD and each attained that result with a final intra-operative measurement of 4 mm. The final category in the female group were those requesting a 0-mm TSD. Two of them had a final intra-

Table 1. Satisfactory Results
Female - 12 Patients

	Final TSD		
	2mm	1mm	0mm
Patient - TSD	Pt. #3-3	#6-3	#8-3
Change (mm)	#12-3	#9-3	#13-4
	#23-3	#10-3	#15-3
		#17-3	#21-3
		#19-3	
Average			
TSD Change	3mm	3mm	

Table 2. Satisfactory Results
Male - 7 Patients

	Final TSD	
	0mm	1mm
Patient - TSD	Pt #1-2	#2-3
Change (mm)	#11-2	#20-2
	#14-2	
	#16-2	
	#22-2	
Average TSD Change	2mm	2.5mm

operative measurement 3 mm, one had 2 mm, and one had 4 mm.

The male category was more problematic (Table 3). Only seven of the ten male surgeries were of a satisfactory nature. Two of these seven patients requested 0-mm results. Tip/supratip differences of 3 mm and 2 mm at the time of surgery were required to achieve this. The other five patients requested 1-mm results, and all required a 3-mm TSD at the time of surgery.

Four patients had unsatisfactory results. Two of the males and one of the females had post-op supratip deformities which were soft in nature. Additional treatment was necessary in each, requiring either supratip steroid injections or revisional surgery to increase tip projection. Interestingly enough, one male had too much difference at the operating table (4 mm), giving a 2-mm result that feminized the nose. No further surgery was requested but grafting would have been necessary if correction had been attempted.

Table 3. Study Results

	Patient	Sex	Estimated TSD Video Image	Immed. TSD	Final TSD	Result
1	JC	M	1	3	1	Satis.
2	BB	M	0	3	0	Satis.
3	PE	F	2	5	2	Satis.
4	WJ	M	0	2	-1	Thick skin
5	DH	F	0	3	-1	Inadeq. tip proj.
6	LR	F	1	4	1	Satis.
7	MB	M	1	4	2	Feminiz.
8	MM	F	0	2	0	Satis.
9	FB	F	1	4	1	Satis.
10	JJ	F	1	4	1	Satis.
11	RT	M	1	3	1	Satis.
12	SJ	F	2	5	2	Satis.
13	SM	F	0	4	0	Satis.
14	TT	M	1	3	1	Satis.
15	JF	F	0	3	0	Satis.
16	TZ	M	1	3	1	Satis.
17	BA	F	1	4	1	Satis.
18	AT	M	0	3	-1	Inadeq. tip proj; thick skin/sleeve.
19	DB	F	1	4	1	Satis.
20	JF	M	0	2	0	Satis.
21	TJ	F	0	3	0	Satis.
22	FD	M	1	3	0	Satis.
23		F	2	5	2	Satis.

Discussion

Gaining an acceptable profile in cosmetic rhinoplasty is a difficult task for the facial plastic surgeon. Many variables come into play: skin thickness and texture, tip projection, length of skin sleeve, patient wishes, and the vagaries of healing, to name only a few. It should be understood that simply having a certain distance between the patient's tip and supratip does not, in any way, guarantee a successful result. Yet, notable nasal surgeons know that the tissue of the upper lip, nasal base, columella, and lobule are susceptible to false elevation during surgery and take it into account when finishing their work.

Conveying just how much the tip is elevated above the more fixed portion of the nasal structure has been difficult. A measurement system seems helpful even if not totally reliable. The author suggests these measurements as guidelines even in the knowledge that the population in this study is small and somewhat skewed. Certainly no statistically significant conclusions can be made, but the fact remains that tips drop after surgery in a somewhat predictable manner.

No patients in this series had cartilaginous supratip deformities. In the three patients who had unsuccessful results, further reduction of the cartilaginous vault would only have worsened the results. Sheen[9] has taught us this, if not our own experience. Again, the soft-tissue pollybeak is a quandary in its own right and actually is much more difficult to treat than residual cartilage humps.

It is interesting, though, that in the patients who did get acceptable results, certain observations stand out. A change of TSD of 3 mm was seen in almost all of the females (Fig. 8) and 2 mm in most of the males (Fig. 9). This was so predictable, even in this small group of patients, that the feminized male might have been anticipated based upon this assumption alone.

The delicate tissues of the average female make

them more susceptible to edema and distortion than the thicker, heavier soft tissue in most males. Allowing a greater difference at the time of surgery only makes sense and is supported by this study, as an extra millimeter was necessary to achieve the final result in females. Measuring with the surgical rule was more reliable in the female, both at surgery and later, as the thinner female skin lends it to this maneuver.

These data could be extrapolated to include revision noses and those with grafts. However, it would probably be necessary to alter the data somewhat, depending on the amount of scarring, number and position of grafts, and approach. Our experience has been mixed. In some of the difficult revision rhinoplasties requiring augmentation, greater TSDs were necessary, but in others, saddle deformities resulted from allowing 3 mm between the supratip and tip.

A larger series would certainly be helpful to reach stronger conclusions, especially if the noses could be categorized not only by sex and the desired result but also by different tip techniques, type of skin, etc. Much of this knowledge simply is gained with experience and is not particularly well suited to quantification. As a suggestion, these numbers might be helpful; beyond that, *caveat emptor.* JI

References

1. Roe JO. The correction of angular deformities of the nose by a submucous operation. *Med Rec* 1891;40:57.
2. Wright WK. *Surgery of the bony and cartilaginous dorsum.* The Otolaryngologic Clinics of North America. W.B. Saunders Co., 1975; 8,3:583.
3. Rees TD. *Aesthetic Plastic Surgery.* W.B. Saunders Co.,1980;1:361.
4. Sullivan MJ, Krause CJ. *Surgery of the Bony and Cartilaginous Dorsum.* The Otolaryngologic Clinics of North America. W.B. Saunders Co. 1987;20:828.
5. Sheen JH. *Aesthetic Rhinoplasty.* C.V. Moshy. 1987;2:1200 ff.
6. Pitanguy I. Surgical importance of a dermacartilaginous ligament in bulbous noses. *Plastic Reconstructive Surgery* 1965;36:247.
7. Wright WK. Study on hump removal in rhinoplasty. *Laryngoscope* 1967;77:508.
8. McCollough EG, Gilbert SE, Langston PR. The difficult nasal tip. *Current Therapy of Otolaryngology, Head and Neck Surgery* 1987, 3:118-123.
9. Goldman IN. Nasal tip correction with special reference to the medial crura. *Trans Am Acad of Opth and Otol* 1964. Sept-Oct. 854-868.
10. Sheen JH. A new look at supratip deformity. *Annals of Plastic Surgery* 1979;3:498.

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The Endoscopic Diagnosis of Pyloric Stenosis

G. Kevin Donovan, MD; A. John Yazdi, MD

Pyloric stenosis, a relatively common surgical problem in infancy, is often straightforward in its clinical presentation and diagnosis. Here we describe two unusual cases where the normal diagnostic measures failed, and an unusual alternative, endoscopy, was a means to the correct diagnosis.

When an infant presents to the physician with recurrent vomiting, the range of diagnostic possibilities is wide. The possibility of hypertrophic pyloric stenosis must always be considered; fortunately the clinical findings are often straightforward and with a history, physical examination, and perhaps one or two confirmatory tests the diagnosis can be made and the patient prepared for surgical correction. Although rare, situations may arise where the physical examination and standard tests are misleading. We describe two such cases where the diagnosis rested on endoscopic findings alone.

Case 1

The patient was admitted at six weeks of age for intractable regurgitation and weight loss. Regurgitation seemed to increase at the time formula was begun to supplement breast feedings at one week of age. Postprandial emesis continued despite a change from cow's milk–based formula to soy formula, and the infant failed to gain weight, finally losing six ounces in the week prior to admission. At this time an upper gastrointestinal barium x-ray showed no abnormalities except "gastroesophageal reflux." The patient was given formula thickened with rice cereal and metoclopramide, without improvement. A repeat upper GI contrast study was read as normal, without evidence of gastric outlet obstruction or stenosis, and with contrast filling the duodenum. Four days later the infant was admitted to the hospital. The physical examination revealed a poorly nourished infant with only mild dehydration, who took the bottle feedings avidly. No mass could be palpated in the abdomen. More intensive therapy for reflux failed to bring about any improvement.

On the third hospital day, the infant had a trace of visible blood with his emesis. Subsequent upper endoscopy demonstrated not only esophageal inflammation with two small erosions, but markedly enlarged, thickened, and asymmetric folds were seen at the pylorus, with a pin-hole opening that would not allow passage of the endoscope. The baby was referred for surgery. A classic hypertrophic pyloric stenosis was found and, following surgery, the regurgitation did not recur.

Case 2

A four-month-old infant had previously undergone a staged closure of a large omphalocele. Since the time of repair she had problems with regurgitation after feedings and was assumed to have gastroesophageal reflux and motility disturbances. This eventually resulted in her being fed entirely through a nasojejunal tube. A barium study of the upper GI tract appeared to show a gastric outlet obstruction, which was thought related to her previous surgery. She was referred for upper

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endoscopy which demonstrated a tightly closed pylorus with hypertrophy of the pyloric musculature. At surgery, pyloric stenosis was confirmed and corrected, despite distortions and adhesions of the bowel from the omphalocele repair. At discharge, the infant was tolerating oral feedings without vomiting.

Discussion

Pyloric stenosis is a relatively common surgical problem in infancy, with an incidence of about 1 in 500. It results in a well recognized clinical presentation with projectile vomiting and failure to thrive occurring in the first few weeks of life. The infants are more often males, who appear alert and hungry at first. With prolonged symptoms, they may become weaker, malnourished, dehydrated, and develop a metabolic alkalosis (and occasionally, an indirect-reactive hyperbilirubinemia). The diagnosis is usually suspected from the clinical presentation, and can be confirmed by detecting an upper abdominal mass representing a hypertrophied pylorus on physical examination, or by ultrasound or radiography. On ultrasound, the pylorus is thickened (3.0 mm) and the canal is lengthened (17 mm). On barium studies the distal antrum and pylorus are elongated and narrowed ("string sign"), often with hypertrophied pyloric muscle indenting the stomach.

Pyloric stenosis must be distinguished from vomiting caused by gastroesophageal reflux, malrotation, and formula intolerance, among other things. With the findings described above, the diagnosis is usually secure. We have reported our experience in making this diagnosis endoscopically when the usual methods failed to indicate the correct diagnosis. This emphasized two points: (1) endoscopy of infants in the hands of a skilled and knowledgeable practitioner is quite safe and effective, and (2) endoscopy can sometimes offer diagnostic information that would otherwise be unavailable. In addition to pyloric stenosis, we have detected channel ulcers, pancreatic rest tumors, gastritis, and gastric polyps in vomiting infants, and pyloric diaphragms or antral webs can also be seen. Nevertheless, unlike some others, we do not recommend this approach as a routine or first-line diagnostic method, given the relatively higher cost and dearth of pediatric endoscopists available. Clearly, in complicated cases with diagnostic uncertainty, endoscopy has an important role to play; under such circumstances we would suggest early referral allowing for appropriate treatment without delay. J

References

1. Walker WA, et al, eds. *Pediatric Gastrointestinal- Pathophysiology-Diagnosis-Management*. Vol One (Philadelphia: B.C. Decker Inc. 1991).
2. Ravitch MM et al, eds. *Pediatric Surgery*, Vol Two, Third Edition (Chicago: Year Book Medical Publishers, Inc., 1993)
3. De Backer A, et al Contribution of endoscopy to early diagnosis of hypertrophic pyloric stenosis. *Journal of Pediatric Gastroenterology and Nutrition* 1994;18:78-81.

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Management of Esophageal Coins in Children by Bougienage: A Case Report

Joe D. Haines, Jr., MD

A three-year-old child with a coin lodged in his esophagus is treated with bougienage after x-ray pinpoints the coin's location.

A three-year-old male was brought to the emergency room twenty minutes after swallowing a coin. The child's mother stated that she was in another room when she heard the child, "coughing and gagging." An eight-year-old sibling informed her that the three-year-old had swallowed "a penny or a nickel." The mother reported that the patient subsequently vomited twice, but he experienced no breathing problems.

Examination

The patient was a three-year-old who appeared to be breathing without difficulty. He was sitting upright with his head inclined a bit forward with an apprehensive look on his face. Respiratory rate was 22 per minute and the pulse oximetry was 100%. Equal breath sounds were present bilaterally, and there was no wheezing, drooling, stridor, or other abnormalities found on physical examination.

X-ray

An x-ray of the neck and chest revealed a round, radio-opaque foreign body, consistent with a coin, at the C7-T1 level. The radiologist felt that because of the orientation of the coin (transversely on the PA view), the coin was lodged in the esophagus

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Procedure

After telephone consultation with a pediatric gastroenterologist, an attempt was made to push the coin into the stomach via bougienage. The patient was prepped by anesthetizing the posterior pharynx with a topical anesthetic spray, and a 24 French gastric tube from an Edlich gastric lavage kit was passed into the esophagus without difficulty. No resistance was encountered, but a total of three passes were required before the coin was observed in the stomach on x-ray.

The patient tolerated the procedure well and was discharged with instructions to observe the stools for passage of the coin and follow-up with the gastroenterologist the following day. The patient was subsequently lost to follow-up.

Discussion

Swallowed foreign bodies occur commonly in pediatric patients. Coins are the most often ingested objects.[1] Most studies agree that once a swallowed coin reaches the stomach, it will pass through the remainder of the GI tract harmlessly. Coins or other objects that become lodged in the esophagus require intervention since they may be associated with several serious complications. Esophageal perforation, airway obstruction, esophageal-aortic fistula, and tracheo-esophageal fistula have all been reported from one week to eight years post-impaction.[2]

There are several methods for removal of coins lodged in the esophagus. The most commonly performed procedure is esophagoscopy. Foley catheter extraction and esophageal bougienage are two other lesser used methods. All three tech-

niques are effective; however the Foley catheter method has been criticized as being barbaric and has resulted in some fatal complications.[3] One disadvantage of esophagoscopy is the expense. Endoscopic retrieval of foreign bodies was estimated at $1,982 per case in one 1992 study, versus $149 per case using the Foley catheter or bougienage technique.[4]

During Foley catheter extraction attempts, esophageal coins occasionally become dislodged and pass into the stomach. This finding prompted Jona et al to propose esophageal bougienage of esophageal coins.[5] Jona proposed rigid criteria for patient selection that have resulted in excellent results. These criteria are (1) coin lodged for less than 24 hours, (2) no respiratory distress, (3) no history of esophageal pathology, and (4) the presence of a single coin.[6]

In all cases of ingested coins an x-ray is needed to identify the site of the coin. Some have advocated 24-hour observation of asymptomatic children with coin ingestion; however, this then eliminates bougienage as an option, according to Jona's criteria. In children who are symptomatic with dysphagia, drooling, pain, vomiting, cough, and stridor, the coin should be removed from the esophagus as soon as possible.

Recently the use of metal detectors has been advocated to locate the site of the ingested coin. In an asymptomatic child, a signal indicating a coin at the gastroesophageal junction or stomach could be managed conservatively. A positive signal from the metal detector over the upper esophagus would warrant intervention.[7] J

References

1. Binder L, Anderson W. Pediatric gastrointestinal foreign body ingestions. *Ann Emerg Med* 1984;13:112-117.
2. Ros S, Cetta F. Metal detectors: an alternative approach to the evaluation of coin ingestion in children. *Pediatric Emergency Care* 1992;8(3):134-136.
3. Schloss M, Terranza O. Introduction of a Canadian dollar coin has created a new health hazard for children. *Journal of Otolaryngology* 1993;22(6):428-430.
4. Kelley J, Leech M. A safe and cost-effective protocol for the management of esophageal coins in children. *J Pediatr Surg* 1993;28(7):898-890.
5. Jona J, Glicklich M. The contraindications for blind esophageal bougienage for coin ingestion in children. *J Pediatr Surg* 1988;23:328-330.
6. Ibid.
7. Ros S, Cetta F. Metal detectors: an alternative approach to the evaluation of coin ingestion in children. *Pediatric Emergency Care* 1992;8(3):134-136.

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Delegates report on 1995 Interim Meeting of AMA House of Delegates

- The AMA House of Delegates met in Washington, D.C., December 3-6, 1995.
- The House considered 170 resolutions and 95 Board and Council reports on an array of topics affecting medical practice and the public health of the American people
- There are 432 voting delegates, representing every state and virtually every national medical specialty society.

Study of the Federation

The Board of Trustees transmitted a report of the Study of the Federation project containing 34 recommendations to improve the effectiveness of the whole Federation on behalf of physicians. This project was initiated to help organized medicine adapt to a changing environment that is driving significant change in all medical societies as well as in the practice of medicine. The 34 recommendations in the report can be divided into two categories:

1. What can be done to make the Federation more functionally effective? How can we reduce duplication of effort, and thus cost? How can we achieve more coordination and, thereby, have more impact in our advocacy efforts? How can we offer to members products and services that are the "best value"?

2. What needs to be done to the structure of the Federation in order to enable and facilitate the functional improvements described above? How can all components of organized medicine and all facets of physicians' professional lives be reflected in the Federation, so that the Federation is empowered and credible enough to speak and act on behalf of the whole profession?

The Reference Committee and the House modified a number of the proposals and took the following actions:

1. The Federation of Medicine should be structured in a way that enables each medical association to retain its individual identity and activities, but which functions more like a total enterprise. The AMA should become the framework within which a new Federation of medicine is established. *(adopted)*

2. The restructured Federation of organized medicine should be built on the basic components of the existing Federation; local medical societies/counties, state medical societies, specialty societies, and the national umbrella organization (AMA). Additional components may need to be included. *(adopted)*

3. Individual physician membership should remain the predominant form for membership in all components of the Federation. *(adopted)*

4. The primary objectives of the new Federation should be:
   a. An increase in value of membership; and
   b. Unity of voice and action of all Federation components. *(adopted)*

5. Physicians should be encouraged to join organized medicine at all levels of the restructured Federation. There should be initiatives to encourage maximal collaboration in membership development efforts among components of the Federation. *(adopted)*

6. Federation participants must recognize that achieving real unity of voice and action and achieving true enhancement of the value of membership will require significant streamlining of roles throughout the Federation to reduce duplication (i.e., cost and dues) and create synergy. *(adopted)*

7. The roles of organizations serving physicians should be clarified and positioned to take full advantage of the strategic advantages enjoyed by each kind of organization. The Federation of organized medicine will be a catalyst and a forum for pursuing collaborative efforts to enhance the value of membership throughout the Federation. This effort will be the highest priority in the implementation process for creating the new Federation. *(adopted)*

8. The AMA House of Delegates should be composed of individuals representing organizations that reflect the major dimensions of a physician's life. *(adopted)*

9. The Federation House of Delegates should strive to be as inclusive as possible of physician organizations that have a stake in, and a contribution to make to, the goals of the Federation. *(adopted)*

10. State societies should be represented by one delegate for every 1000 AMA members or portion thereof. *(adopted)*

11. State societies should continue to count AMA direct members from that state

(continued)

AMA Delegates report *(cont.)*

for purposes of determining delegation size. *(adopted)*

12. Specialty societies should continue to have representation in the AMA House of Delegates with a delegate allocation formula to be developed for the consideration of the AMA House of Delegates at its 1996 Annual Meeting. *(adopted)*

13. The current criteria for specialty society eligibility will continue to apply. *(adopted)*

14. State societies should continue to get a "bonus delegate" for being unified. Specialty societies that are unified should also get a "bonus delegate." *(adopted)*

15. Consistent with the idea that "voting" is not the only way to participate in an organization, mechanisms should be established through which organizations or groups of physicians with particular interests can meaningfully participate in the Federation without having a vote in the House of Delegates. The AMA Council on Long Range Planning should be asked to identify such mechanisms. *(adopted)*

16. Consistent with Section 2.73 of the AMA Bylaws, the Speaker of the House shall establish a special committee of the House to study ways to enhance the election process for positions on the AMA Board of Trustees and to study the size, composition, and terms of service of the AMA Board to enable it to function in the context of the new Federation of Medicine. At a minimum, a progress report on the work of this committee should be presented to the AMA House at its 1996 Annual Meeting. The final report of this committee shall be presented to the House no later than the 1996 Interim Meeting. *(adopted)*

17. The AMA Councils and other governance elements should be analyzed by the Council on Long Range Planning to determine if similar efforts to reflect change should be made in each case. *(adopted)*

18. To establish a new, effective Federation of Medicine, a mechanism will be needed for the purposes of:

a. Clarifying roles and achieving active coordination of efforts:
   i. Developing a process for helping to coordinate the response of medical associations to key issues
   ii. Enhancing communications among medical associations and between medical associations and physicians
b. Establishing a process for pursuing collaborative efforts among Federation members:
   i. Identifying opportunities, including joint ventures, for medical associations to work together
   ii. Promoting information sharing and compatible database development among medical associations. *(adopted)*

19. The current Project Team of the Study of the Federation shall provide a report at the 1996 AMA Annual Meeting

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that clarifies and provides more detail regarding specialty society representation and representation by major dimensions of a physician's professional life. Further, the Project Team should provide more specific details regarding how the new Federation should be implemented, including transition steps. In pursuing its work between now and the 1996 Annual Meeting, the Project Team should solicit broad input from components of the Federation to determine and assess their attitudes, desires, and intent regarding the principles of the restructured Federation. The report of the Project Team shall be made available to all Federation components well in advance of the 1996 Annual Meeting so that everyone will have the opportunity to review it thoroughly and be able to act on it at the 1996 Annual Meeting. *(adopted)*

In addition, some proposals for revising the representational structure within the House of Delegates were referred to the Board of Trustees for a report back at the 1996 Annual Meeting.

Mandatory Point of Service

The Council on Medical Service submitted a report describing the distinction between optional and mandatory point-of-service (POS) features and providing a comprehensive discussion of the impact of a mandatory POS feature on long-standing AMA policy on pluralism, on the cost of providing medical services and in the current political and legislative climate. The report responded to three resolutions submitted at the previous meeting. An additional resolution was submitted calling for all managed care plans to be required to have a POS feature automatically built into them that allows patient access to providers outside the plan at any time for a nonprohibitive additional co-payment for medically necessary services.

After extensive debate, the House voted to reaffirm current policy and added a new recommendation:

- Reaffirm policy which states that all health plans or sponsors of such plans that restrict a patient's choice of physicians or hospitals be required to offer, at the time of enrollment and at least for a continuous one-month period annually thereafter, an optional "point-of-service-type" feature so that patients who choose such plans may elect to self-refer to physicians outside of the plan at additional cost to themselves.
- That the AMA investigate and help develop the feasibility of other potential free market solutions to provide patient access including a separate add-on policy for out-of-plan reimbursement for health plans with restricted provider panels, and if deemed feasible, assist the insurance industry in implementation of such products.

Medicare Transformation

The Board of Trustees submitted an informational report that reviewed the background and status of legislative activities related to Medicare transformation, including an AMA action plan for before and after legislation is finalized.

The Reference Committee reported that the Board representatives outlined the impressive gains achieved by the AMA to date and emphasized that those positive items whose continued presence in the budget reconciliation has been threatened still have an excellent chance of passage this year or next. The Board emphasized that a tone of measured optimism was in order on the following items:

- Improvements in the security of traditional Medicare
- New choices for patients, including medical savings accounts, rather than "forced" managed care
- Patient protections
- Elimination of the flawed MVPS physician payment update formula so that, under moderate and reasonable volume assumptions, physicians do not face annual payment rollbacks, as projected under current law
- Physician sponsored networks and targeted antitrust relief to allow their formation
- Liability reforms, including a $250,000 cap on non-economic damages
- A new graduate medical education trust find
- Relief from unnecessary CLIA and Stark I and II provisions

Root Cause of Violence

The Board of Trustees submitted a report that expressed continued strong support for the programmatic efforts of the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention. The Board noted its willingness to work with any group to lessen the effects of violence in our society.

The Reference Committee reported that nearly all those who testified expressed strong support for the Board's efforts to continue the AMA campaign against family violence. The House amended current AMA policy calling on the AMA to support the CDC's efforts to:

- Conduct research
- Develop a national program of surveillance and focused interventions to prevent injuries, and
- Evaluate the effectiveness of interventions, implementation strategies, and injury prevention programs.

The policy also calls on the AMA to:

- Support a Public health Service public information campaign to inform the public and its policy makers of the injury problem and the potential for effective intervention;
- Support the development of a National Center for Injury Control at the CDC;
- Encourage state and local medical societies to support, in conjunction with state and local health departments, efforts to make injury control a priority and advise the leadership of the United States Congress of this unqualified support.

Graduate Medical Education Funding

Concern for the future funding of graduate medical education was evidenced by the introduction of six resolutions on this important issue. The Council on Medical Education reported that there was a study already underway with a report expected for the 1996 Interim Meeting. The House adopted a substitute resolution calling on the AMA to undertake a comprehensive study of the options for financing graduate medical education and develop recommendations to provide a stable, rational, adequate, and feasible system for financing grad-

Trustees approve new Journal publication policy at January meeting

Approval of the following publication policy for the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION was among the actions taken by the OSMA Board of Trustees at their January 21 meeting in Oklahoma City:

Publication Policy for the
Journal of the
Oklahoma State Medical Association

The principal purpose of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION ("JOURNAL") is to publish worthy scientific articles of interest to the physicians of Oklahoma. It is also the objective of the JOURNAL to publish articles that advance the education, competence, social awareness, ethical practice or public responsibility of Oklahoma physician. In addition, the JOURNAL may publish articles discussing political issues directly affecting the healthcare industry and news of the Oklahoma State Medical Association ("OSMA") and Alliance activities. The JOURNAL may also provide a forum in print for members of the OSMA to express opinions on matters of interest to Oklahoma physicians.

In order to preserve the integrity and quality of the JOURNAL, all scientific and controversial articles are peer-reviewed before publication and efforts are made to balance viewpoint articles for fairness. Articles reflecting partisan politics, sectarian religion, private agendas, personal publicity promotions or defamatory and/or inflammatory remarks are not appropriate for publication in the JOURNAL. All manuscripts are screened for such material, and all advertisements are reviewed for good taste. The American Medical Association's ("AMA") published editorial guidelines and the AMA Principles of Medical Ethics are used as standards.

The OSMA is the publisher of the JOURNAL. The JOURNAL is published monthly under the direction of the OSMA Board of Trustees. The OSMA Board of Trustees is empowered under the Bylaws to appoint a JOURNAL Editorial Board of three Editors with three-year staggered terms, one of whom is designated as the Editor-in-Chief, and a variable number of Associate Editors each with a one-year term. Any Editor or Associate Editor may be reappointed by the Board of Trustees without limitation.

The OSMA and the Board of Trustees vest in the Editor-in-Chief the duty and responsibility to administer the Publication Policy of the JOURNAL, and the Editor-in-Chief, with the advice and assistance of the Editorial Board and the Managing Editor, determines the content, layout, and composition of each issue of the JOURNAL. Changes or amendments to the Publication Policy must be approved by the Board of Trustees, and shall be effective only after reasonable prior written notice is given to the Editorial Board and the Editor-in-Chief. Any such changes shall not apply to issues of the JOURNAL which have previously been submitted by the JOURNAL Editorial Board for publication, but shall only apply to subsequent issues of the JOURNAL.

Board names Life Members and selects award winners

Other action taken by the Board of Trustees of the Oklahoma State Medical Association included:

Approval of Life Membership applications:

Approved from Oklahoma City were the applications of Drs. Michael Pollay, Thomas N. Lynn, Herbert M. Kravitz, and Billy R. Goetzinger. Those from Tulsa were Drs. Milton R. Workman,

AMA Delegates report *(cont.)*

uate medical education, including mechanisms to implement an all-payor system, the use of vouchers, payment for training in non-hospital settings, and appropriate allocation of the training component of the Average Adjusted per Capita Cost (AAPCC).

AMA Budget, Fiscal 1996

The Board of Trustees submitted the AMA's 1996 Plan and Budget showing consolidated operating revenues budgeted at $204.9 million and consolidated operating expenses, including income taxes, at $202.4 million. Budgeted revenues in excess of expenses are $2.5 million.

The House voted to commend the Board of Trustees and the Executive Vice President for their actions in improving the financial position of the AMA and in planning for 1996 and beyond.

Conclusion

Meetings of the AMA House of Delegates are open to every member and are conducted in a most democratic manner. They provide those who attend a unique educational experience as a wealth of information is disseminated and discussed. Members may present testimony at the Reference Committee hearings and there are many other opportunities to get your views across.

If you cannot come to the meetings, let your delegation know your opinions and concerns.

Many AMA policies and programs began with an individual physician who had a good idea and coaxed it through the democratic process.

We will be happy to respond to any questions.

Your AMA Delegation
Delegates:
Jay A. Gregory, MD
Sara R. DePersio, MD
Boyd Whitlock, MD
Perry A.Lambird, MD
Norman L. Dunitz, MD
Gary F. Strebel, MD
William O. Coleman, MD
Alternates:
Mary Anne McCaffree, MD
W.F. Phelps, MD
William H. Hall, MD
Greg Ratliff, MD
Gary Paddock, MD
J. Ross Vanhooser, MD
Larry L. Long, MD

Board meeting (continued)

Harold C. Wood, William M. Moore, L.E. Fitzsimmons, and John H. Smith, Jr.

Life Memberships were also approved for Drs. James R. Taylor and (Ira) Clair Liebrand, Bartlesville; James W. Murphree, Pryor; William S. Dandridge, Enid; Wilbur C. Lewis, Edmond; and Jon Mekis, El Reno.

Selection of award winners:

Dr. Mukesh T. Parekh was selected as winner of the Wyeth-Ayerst Physician Award for Community Service in recognition of his management of the Free Clinic sponsored by Deaconess Hospital in Oklahoma City. He joins a distinguished group of physicians who have won this award in recent years, including Drs. C.S. Lewis, Bertha Levy, Joan Leavitt, and Jerry Blankenship.

Governor Frank Keating is the recipient of this year's Donald J. Blair Friend of Medicine Award. His leadership during and after the Oklahoma City bombing exemplified to the nation the fortitude, resilience, and caring spirit of the people of Oklahoma.

Both awards will be presented at the OSMA Annual Meeting in April.

Other actions of the board will be reported as the minutes of the meeting become available. J

Call for Resolutions

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates Annual Meeting must be received in the OSMA executive offices no later than thirty (30) days prior to the meeting. This year's meeting will be April 26-28 at the Southern Hills Marriott in Tulsa.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 Northwest Expressway, Oklahoma City, OK 73118. If you need assistance in drafting such resolutions, please contact the executive offices.

Resolutions must be submitted on or before March 26, 1996

– OFFICIAL CALL –

The House of Delegates of the Oklahoma State Medical Association will conduct its 90th Annual Meeting at the Southern Hills Marriott Tulsa, Oklahoma April 26-28, 1996

Opening Session: 9 a.m., Friday, April 26
Closing Session: 9 a.m., Sunday, April 28

All members, delegates, alternate delegates, and county society officers are encouraged and urged to attend. Business to be brought before the House of Delegates must be submitted by March 26, 1996. All items of business will be debated in open reference committee hearings on Friday, April 26.

Any member of the association may submit business for consideration by the House of Delegates. For help in preparing information for submission, please contact
OSMA Headquarters
601 Northwest Expressway
Oklahoma City, OK 73118
405-843-9571 or 1-800-522-9452

Mary Anne McCaffree, MD
Speaker of the House

HEALTH DEPARTMENT

Early discharge has effect on newborn screening

Oklahoma statute requires that all newborns are screened for phenylketonuria (PKU), congenital hypothyroidism, galactosemia, and sickle cell disease prior to discharge from the hospital. With increasing frequency, infants are discharged from the hospital at less than 24 hours of age. While research has indicated that possibly 10% of affected infants may be missed by screening before 24 hours of age, affected infants have a 100% risk of being missed if they are not screened prior to discharge and fail to return to be screened. A study published in the October 1995 issue of *Pediatrics* suggests that the effectiveness of newborn metabolic disorder screening may be jeopardized by early hospital discharge. One objective of the study was to ascertain if newborn nurseries had policies to avoid false negative results on infants discharged before 24 hours of age. The study found that many did not have policies, and failed to comply with state regulations.

The Oklahoma State Department of Health Newborn Metabolic Disorder Screening Program has recognized the risks associated with early hospital discharge and newborn screening and has incorporated the following measures recommended by the American Academy of Pediatrics into the Newborn Metabolic Disorder Screening Regulations (63 O.S. 1981, Sections 1-533 and 1-534):

C. Specimen Collection for Hospital Births

1. For all live hospital births, the physician, licensed or certified birth attendant shall order the collection of a newborn metabolic disorder screening specimen on all newborns prior to transfusion, at three to five days of age or immediately prior to discharge, whichever comes first. The hospital is responsible for collecting specimens on all infants.

2. If the initial specimen for any infant is collected prior to 24 hours of age, the hospital and the physician are responsible for notifying the infant's parents that a repeat specimen is necessary at three to five days of age. The infant's physician is responsible for insuring that the repeat specimen is collected.

To avoid missing affected infants because of early hospital discharge, it is important that physicians ensure all infants are screened prior to discharge and to rescreen all infants screened before 24 hours of age. Questions regarding newborn metabolic disorder screening and copies of the regulations may be obtained by calling the Newborn Metabolic Disorder Screening Program at 405-271-6617 or the Public Health Laboratory at 405-271-5070.

Reference:
Smai LN, Kim SC, Casey R, Pinto-Martin JA. Phenylketonuria screening: effect on early newborn discharge. *Pediatrics*. 1995;96:605-608.

Recommendations for use of hepatitis A vaccine

An epidemic of hepatitis was occurring in eastern Oklahoma in mid-January. At least 9 counties were involved (Sequoyah, Cherokee, Okmulgee, Mayes, McIntosh, Craig, Pittsburg, Muskogee, and Leflore) and there was evidence that the epidemic might be spreading.

The Oklahoma State Department of Health (OSDH) received reports of 2 cases of acute liver failure (one resulted in death and the other required liver transplantation) in persons from eastern Oklahoma with chronic liver disease who contracted hepatitis A.

Physicians in the epidemic area should be alert for persons who are at increased risk for contracting hepatitis A, or at high risk for complications should they contract it, for whom the new hepatitis A vaccine (Havrix) is recommended. Those for whom the vaccine is recommended include: persons with chronic liver disease; Native Americans; persons who use street drugs; men who have sex with men; and persons who travel to developing countries where hepatitis A is prevalent. The vaccine is very safe and effective.

Due to the cases of acute liver failure, OSDH has notified the public in the epidemic area that persons with chronic liver disease are at increased risk of severe disease if they contract hepatitis A and recommends that they consult their physician about receiving Havrix.

Questions should be directed to Mike Crutcher, MD, state epidemiologist, at 405-271-3266.

Announcing the 1996
Mark R. Johnson Competition
"Excellence in Medical Writing"

A $500 cash award will be presented to the medical student or resident at the University of Oklahoma College of Medicine (Oklahoma City or Tulsa campus) who, by December 31, 1996, submits the best scientific paper or opinion piece for publication in the JOURNAL.

Entries will be judged by the JOURNAL's Editorial Board at its annual meeting in March 1997 and the winner, if any, will be announced at the Annual Meeting of the OSMA House of Delegates in April 1997. All decisions of the Editorial Board will be final.

The student or resident submitting the paper need not be the *sole* author, but must be the *lead* author and must have done the majority of the writing. Entries in the competition should be clearly labeled as such when submitted.

Entries should be mailed to: Mark R. Johnson Competition, OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. For additional information, call (405) 843-9571 or 1-800-522-9452.

CAPSULES

■ Susan M. Edwards, MD, Oklahoma City, has been named vice-president of Medical Affairs for St. Anthony Hospital. Dr. Edwards is a board certified radiologist with twelve years of experience and in addition to her private practice she is a staff radiologist and section head of ultrasound and mammography. She was instrumental in establishing a new MRI center at the hospital and in expanding ultrasound and mammography services.

■ Woodward native Ryan Peters, a second-year medical student in Oklahoma City, has been diagnosed as having metastatic cancer. Ryan is supporting his wife, Casey, and two children through his student financial aid. However, because he is now unable to attend class, those funds will be cut off. The Oklahoma Academy of Family Physicians has set up a fund to help the Peters family with medical and living expenses. To contribute, mark your donation for Ryan Peters and send it to The Family Health Foundation of Oklahoma, 4301 NW 63rd, Suite 304, Oklahoma City, OK 73116. Donations are tax deductible.

■ Tretinoin, a vitamin A topical agent used to treat acne, may have caused depression, slurred speech, and unsteadiness in a patient with hepatitis C, reports the January 15 *Annals of Internal Medicine Tip Sheet*. Symptoms abated when the patient stopped applying the tretinoin and returned when she resumed use of the acne medication. Tretinoin used topically has not been connected with neurologic complications, although large doses of oral vitamin A are known to be toxic. J

IN TRIBUTE

Harold Gordon Muchmore, MD

March 8, 1920 - November 17, 1995

Presented at Chapel Hill United Methodist Church
Oklahoma City, OK

Donna and family, I wish to thank you for inviting me to say a few words about my friend Harold.

I also wish to thank the staff at University Hospital for the care they provided Harold, and particularly Dr. Douglas Fine, whose devotion helped make these last weeks easier for Harold, his family, and his friends.

Harold and I have known each other since 1944. He was a medical student and I an intern at the University of Oklahoma Hospitals, assigned to the same ward. The first patient we cared for together was Mr. G.R. He had nonalcoholic cirrhosis with a large nodular liver. We saw no need for a liver biopsy but were overruled. The procedure in those days required a general anesthetic. Mr. G.R. died during the operation. Harold

IN MEMORIAM

1995

Clifford Jennings Blair, MD ..... February 10
John Richard Danstrom, MD ..... March 5
Elmer William Taylor, MD ..... March 5
Othal Blair Cunnyngham, MD ..... March 14
George S. Bozalis, MD ..... March 21
William Gerald Rogers, MD ..... March 21
Charles Wesley Letcher, MD ..... March 26
John Frederick Bolene, MD ..... March 27
John B. Miles, MD ..... March 31
Elvus Jene Allgood, MD ..... May 6
Wiley T. McCollum, MD ..... May 13
Gerald Leon Honick, MD ..... May 24
William G. Husband, Jr., MD ..... May 25
Henry Washington Harris, MD ..... June 2
Joan Kazanjian Leavitt, MD ..... June 13
Lucien Michael Pascucci, MD ..... July 2
Glen M. Floyd, MD ..... July 8
Marvin Homer Hird, MD ..... July 18
Yale Eugene Parkhurst, MD ..... July 27
Joe Leslie Duer, MD ..... August 25
William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Millison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11

OSMA Physician
Recovery Program
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Moorman tribute *(continued)*

and I talked to the family and then to each other. Mr. G.R. was the first patient of Harold's who died. We cried.

Harold was particularly known as a consultant for patients with fungus disease, tuberculosis, and other respiratory infections. You in Oklahoma know that in his years in Minnesota, physicians including the infectious disease staff in Medicine and Pediatrics called on him to see patients at both county hospitals, the VA hospital, the University Hospital, and several private hospitals. Donna and family, that is what he was doing many evenings when you waited for him for dinner.

We worked together and joked together. I once told him the only reason we needed an infectious disease consultant is to find out "what is the antibiotic of the week." Last week I talked to him and told him I was going to a lecture on tuberculosis. His reply was, "Good, maybe you'll finally get it right."

Harold was not only a physician, he was a scientist. He was in the first group selected as VA clinical investigators. His work on the treatment of tuberculosis, diagnosis of histoplasmosis, toxicity of amphotericin-B, and epidemiology of cryptococcus was notable. Even more outstanding was his research at the South Pole on the response to infections and immunologic changes in a small group of people isolated for a prolonged period. This work gained international attention. This work has implications for prolonged space flight. It was published in *Nature,* the most difficult and prestigious scientific journal in which to have an article accepted. As a result of this work, Harold was elected to membership in the Explorer Society. Donna was the first woman to work at the South Pole and is also a member of that elite Explorer Society.

Harold was a physician and scientist, but in his heart primarily a teacher—an enthusiastic teacher. One time on the tuberculosis ward (5N) at the VA Hospital, he began rounds at midmorning. Rounds continued into the afternoon, with one break for a sandwich, with Harold still continuing the discussion. The next day I saw the resident and asked him how rounds were the previous day. He replied, "Long, very long," and then added, "but exciting and informative—just great, just great!" One day at chest conference Harold was at the blackboard explaining how the tubercle bacillus attacks the patient. The case being discussed had become drug resistant. He became more and more animated as he talked about the tubercle bacillus. Finally a student asked, "Dr. Muehmore, whose side are you on—the tubercle bacillus or this patient's?" Harold joined in the laughter and then explained how knowledge of drug-resistant bacteria would help the patient.

He avoided committees whenever possible and would never serve on a curriculum committee. He only asked that their tinkering not interfere with time teachers spent with students—preferably one to one. At that he excelled.

I once found a topic about which I knew more than Harold. That was loons. One week later he again was ahead of me. That began four decades of loon watching together. The equipment we used was simple—a chair and a cool beer. No complex high tech equipment such as binoculars. The places varied: Big Birch Lake in Minnesota, a pond in a suburb of St. Paul, the Guadalupe River in Texas. Donna and Dee worried a little when we watched for loons with no water nearby. We discussed patients we had seen, research, medical literature and other literature, and read poetry. Harold understood the need for physicians to be well informed, to understand or try to understand the human condition.

From Shakespeare there is a line I have quoted often. In 1415, Henry V rallied his troops before the battle of Agincourt. He said, "We few, we band of brothers." Several times when our small group battled hospital administrators or politicians to improve patient care, I have used that phrase. Harold was one of that "band of brothers." I had three sisters and no brothers. Harold became the brother I never had, a part of our family.

One time I found Harold stumped. Five years ago a group was having dinner at our home. One used the phrase, "It is better to light a candle than to curse the darkness." Another asked, "I wonder where that originated?" No one knew, including an English professor and an author. We searched a Bible index, a Shakespeare index, and a Bartlett's *Familiar Quotations* which Harold had given me. Still no answer. I telephoned my Uncle Phil. He quoted Milton's "Sonnets on His Blindness." Still no answer. I told the group, "Next week I will see a friend, Dr. Muehmore, at the Central Society for Clinical Research Meeting in Chicago and that I am certain he will know." At the reception at the Drake Hotel in Chicago I saw Harold. He didn't know! He didn't know! I was amazed.

The next morning Harold was not at the meeting. At noon I saw him with a big smile. He had spent the morning at the Chicago Public Library and had the answer—it is the motto of the Christopher Society and was paraphrased at Eleanor Roosevelt's funeral by Adlai Stevenson, who said, "She would rather light a candle than curse the darkness."

In this life Harold lit many candles. He lit candles for patients by tender care when they had devastating diseases. He lit candles when he discovered information that led to better patient care. He lit candles for students when his enthusiasm encouraged them to learn and understand. He lit candles for his family and all of us by his approach to life and death.

Goodbye, good friend. Goodbye, my brother.

—James F. Hammarsten, MD
Grey Eagle, Minn.

DEATHS

Gerald LeRoy Beasley, Jr., MD
1926 - 1996

Gerald L. Beasley, MD, a Life Member of the OSMA since 1991, died January 4 at his home in Duncan. Dr. Beasley was born and raised in Tulsa. When he reached age 18, he enlisted in the Army Air Corps and served until the end of World War II. When he returned after the war, he completed his undergraduate education before moving to Oklahoma City and

earning a medical degree at the University of Oklahoma in 1953. He completed his internship and residency in Oklahoma City and then opened a general practice. Six years later he moved to Duncan, where he practiced medicine until his retirement in 1991.

John Russell Hubbard
1910 - 1995

OSMA Life Member John R. Hubbard, MD, of Oklahoma City, died December 24, 1995. He was a retired general practitioner. Dr. Hubbard was born in Laharpe, Kans., and graduated from Hahnemann Medical College in Philadelphia in 1938. He completed an internship in Tulsa, and started a private practice in Oklahoma City in 1939. From 1940 to 1945 he served in the U.S. Army, including 20 months overseas, and attained the rank of lieutenant colonel. He resumed his practice in Oklahoma City after the war.

Emanuel Nathan Lubin, MD
1918 - 1996

Emanuel N. "Manny" Lubin, MD, a retired Tulsa urologist, died January 11, 1996. Born in Penns Grove, N.J., he earned his medical degree at the State University of Iowa, Iowa City, in 1943. He completed an internship in Des Moines and a residency in Philadelphia. He established his private practice in Tulsa in 1948 and in 1975 was president of the Tulsa County Medical Society. He was also a past president of the Oklahoma State Urological Society and Tulsa Surgical Society. He served as a Tulsa delegate to the OSMA. Dr. Lubin was a clinical professor at the University of Oklahoma College of Medicine for more than 20 years and served as vice-chairman of the Urology Department. In 1986 he was named Tulsa Doctor of the Year.

Ethan Allen Walker, Jr., MD
1919 - 1995

OSMA Life Member Ethan A. Walker, Jr., MD, died December 8, 1995. He was a 1943 graduate of the University of Oklahoma School of Medicine and completed his internship and residency in otorhinolaryngology and ophthalmology while serving in the U.S. Navy and at V.A. and University hospitals in Oklahoma City. He practiced at the Oklahoma City Clinic and was a clinical professor in the Department of Otorhinolaryngology at the University of Oklahoma Health Sciences Center, retiring in 1980. He then practiced in Saudi Arabia until fully retiring at age 65. He died at his home in Nova Scotia. Those wishing to contribute to a memorial lectureship in Dr. Walker's memory may send memorials to: E.A. Walker, Jr., MD, Memorial Lectureship, c/o Jesus Medina, MD, Chairman, Department of Otorhinolaryngology, P.O. Box 26901, 3SP 410, Oklahoma City, OK 73190.

Kerri Dianne Williams, MD
1953 - 1996

Kerri Dianne Williams, MD, Oklahoma City ophthalmologist, died January 9, 1996. After earning an undergraduate degree in biological science in 1975 and working as a registered medical technologist, she entered the OU College of Medicine in 1982. She graduated in 1986, completed her residency at the College of Medicine and the Dean A. McGee Eye Institute. She opened a private practice in 1989 and was appointed to the clinical faculty of the University of Oklahoma Ophthalmology in 1991. In 1995 she joined the staff of the McGee Eye Institute. Memorial donations may be sent to the Oklahoma State Medical Association, c/o Dr. Kerri D. Williams Memorial Fund, 601 Northwest Expressway, Oklahoma City, OK 73118. J

CLASSIFIEDS

Classified ads are 50¢ a word, with a minimum of $25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

Physicians Wanted

PRIMARY CARE PHYSICIANS: JUST STARTING OUT? SEEKING A CHANGE? INTERESTED IN EXTRA INCOME? Numerous Oklahoma ER & Clinic opportunities available. Residents are welcome to apply. BCLS & ACLS required. Flexible schedules. Malpractice coverage available. For specific locations and information, contact: ANNASHAE CORPORATION, Healthcare Management & Staffing; 1-800-245-2662.

GASTROENTEROLOGIST, ORTHOPEDIC SURGEON, 2 FAMILY PRACTICE PHYSICIANS, and 2 INTERNAL MEDICINE PHYSICIANS needed for Southern Plains Medical Center, 35 physician multispecialty group. Located 35 miles southwest of Oklahoma City on Interstate 44, family oriented college community of 15,000 with service area of 110,000 population. 156 bed hospital next door. Guarantee first year, pension-profit sharing, malpractice, CME, relocation paid. 4-year university, excellent public schools, hunting, fishing, water sports. Contact Jeanie Bledsoe, Southern Plains Medical Center, P.O. Box 1069, Chickasha, OK 73023. Phone 405-222-9583 or 405-224-5507.

PRIMARY CARE PHYSICIAN. Opportunity available in Oklahoma City area for FP in a walk-in ambulatory care clinic with X-ray and Lab facilities. Competitive salary plus incentive. Benefit package includes paid malpractice. Contact Darla at (405) 271-7310.

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For lease in Tulsa 3,000 square feet (two offices) available. Third office occupied by Plastic Surgeon. Located near Saint Francis Hospital. Ample parking. (918) 492-3964.

FOR SALE by owner: Office suite in Edmond Regional Medical Building, adjacent to Edmond Regional Medical Center, corner of Second and Bryant. 1318 sq. ft. Close to both I-35 and Broadway Ext. Covered parking. Terms very reasonable. Call today! (405) 359-8005.

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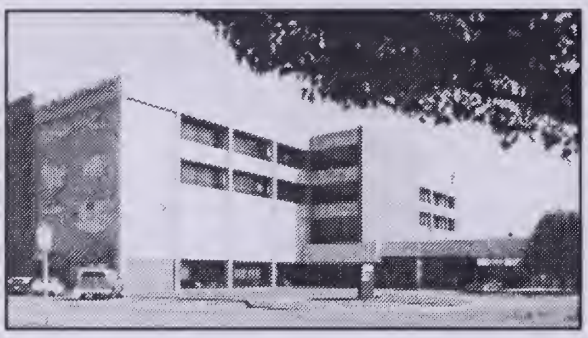

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Medical Alliance Month

Medical Alliance Month was envisioned as a means to unify and to link all medical alliances across the nation. The purpose is to tell "our story" to the public, and thus to enhance the alliance image and community awareness of what alliance members do to improve public health and welfare in their communities. The focus is to inform the public about alliance programs and to demonstrate how the medical community responds to public needs within their respective communities via these alliance volunteer programs. Medical Alliance Month serves as recognition of physician spouses' contributions to society by influencing issues that matter in today's world.

In Oklahoma, Governor Frank Keating will recognize Medical Alliance Month with a proclamation and photo opportunity at the State Capitol within the first week of March. In addition, overtures have been made to the First Lady's office for an appearance at one of the alliance events which supports local community health needs. Confirmation of the above mentioned public recognition activities has yet to be made.

Questions about Medical Alliance Month should be directed to me at 918-747-0668 or 918-747-8454.

— *Carol Ashcraft*
Medical Alliance Month Chair

■ **Three bills sponsored by the Oklahoma State Medical** Association have been introduced in the Oklahoma State Legislature. Senators Dave Herbert, D-Midwest City, and Jim Maddox, D-Lawton, will author the "Consumer Choice Act of 1996." This measure would prohibit managed care organizations from discriminating against otherwise qualified MD and DO physicians, if they agreed to a plan's fee schedule and other conditions. The OSMA's Fairness in Managed Care Act and a measure to exempt PLICO from certain capital requirements of the National Association of Insurance Commissioners also have been introduced. While several legislators have agreed to sponsor these bills, the names of specific authors have not yet been determined. The OSMA also has a "shell" bill in place to deal with the issue of prescribing by advanced practice nurses.

■ **It's tax time. OSMA members are reminded that the per**centage of their professional dues used for lobbying cannot be deducted from income taxes. In 1995, 33% of AMA dues and 25% of OSMA dues were used to lobby. In 1996, the figure for both is 25%.

■ **In December, the Health Care Financing Administra**tion (HCFA) published in the *Federal Register* the final rule containing the 1996 Medicare physician fee schedule. The rule announces the new and revised relative values for 1996 and the 1996 conversion factor updates. As in previous years, HCFA placed significant value on the recommendations of the American Medical Association/Specialty Society RVS Update Committee (RUC) for work-relative values for 140 new and revised codes for 1996. The overall level of acceptance of the RUC's recommendations is 90%. In addition, the proposed relative values for maxillofacial prosthetic services, which were previously carrier priced, are accepted as final. The 1996 Medicare Value Performance Standards (MVPS) and conversion factor updates are based on the default formulas and reflect an increase in the Medicare Economic Index of 2.0%. The 1996 conversion factor updates and conversion factors are: (1) surgery: 3.8%, $40.7986; (2) primary care: -2.3%, $35.4137; other: 0.4%, $34.6293. The 1996 MVPSs are -0.5% for surgery; 9.3% for primary care; and 0.6% for other services. These conversion factors are expected to be modified if and when Congress and the President reach an agreement on the budget.

■ **Rep. Ray Vaughn (R-Edmond) has introduced two bills** in the Oklahoma House that will allow the state's cities to devise and enforce their own laws regarding the use of tobacco, particularly by children. Current Oklahoma law preempts the right of communities to enact laws or regulations stronger than existing state law. HB 2493 would repeal the existing preemption. Current bill authors, in addition to Rep. Vaughn, are a bipartisan group. Primary Senate authors are Sen. Ed Long (D-Enid) and Sen. Helen Cole (R-Moore).

The House is expected to pass the measure; the Senate vote is up for grabs. Rep. Vaughn also introduced HB 2394. This measure would increase the penalties against those who sell tobacco products to minors, including the potential to lose their license to sell for a certain time.

■ **Doctor of the Day volunteers are still needed to serve at** the State Capitol during February, April, and May. Volunteers will be introduced in both the House and Senate by their respective representative. Physicians should bring their own prescription pads and can expect to see perhaps a dozen patients a day. A Nurse of the Day will be present to assist. To volunteer, call Bobby Brown at the OSMA, 405-843-9571 or 1-800-522-9452.

■ **Several OSMA members have been elected to positions** on the Board of Directors of the Oklahoma Foundation for Medical Quality, Inc. (OFMQ, formerly the Oklahoma Foundation for Peer Review). Michael E. Aaron, MD, Weatherford family practitioner, is vice-chair; Noble L. Ballard, MD, Altus family practitioner, is secretary; and Jack H. Sommers, MD, Tulsa family practitioner, is treasurer. Serving as directors will be Janet G. Rodgers, MD, Oklahoma City emergency medicine specialist; William H. Oehlert, MD, Oklahoma City internist; and James R. Rhymer, MD, Clinton family practitioner.

■ **National Poison Prevention Week this year is March** 17-23. Physicians, pharmacists, nurses, and other health care professionals are encouraged to work to improve the public's awareness of potential hazards in the home, and provide education regarding the management of poisonings. Staff members at the Oklahoma Poison Control Center will continue their program of live education programs and literature distribution. The center develops poison prevention materials for used by health care professionals and educators who undertake poison prevention programs in their communities. Telephone access to the center is available 24 hours a day at 405-271-5454 in the greater Oklahoma City area and 1-800-522-4611 statewide. In 1995 alone, the Oklahoma Poison Control Center responded to over 59,000 calls from all 77 counties in the state.

■ **Physicians in managed care plans are ethically bound** to ignore gag rules that limit what they can tell their patients, according to AMA Trustee Ted Lewers, MD. The remark was prompted by US Healthcare's decision to drop a physician from its Harvard plan who publicly accused the HMO of putting financial considerations into the medical decision-making process. "The physician has to be the patient's advocate," said Dr. Lewers. Patients shouldn't have to wonder if the physician is working for them or for someone else. Dr. Lewers said that he crossed out the gag rule clause before he signed his HMO contract. J

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JOURNAL

OKLAHOMA STATE MEDICAL ASSOCIATION

MARCH 1996 VOL. 89, NO. 3

EDITORIAL
Beyond Sibling Rivalry 83
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE
Thanks, Hope, and Other Things 85
J.J. Long, Oklahoma City

SCIENTIFIC
Community-Acquired Pneumonia in Oklahoma: Characteristics and Management of Hospitalized Medicare Beneficiaries 87
D.W. Bratzler, C.K. Murray, L.J. Bumpus, L.L. Moore; Oklahoma City

MRI of Lightning Injury: Early White Matter Changes Associated with Cerebral Dysfunction 93
W.J. Milton, R.H. O'Dell, E.G. Warner; Oklahoma City

COMMENTARY
Mismanaged Care 95
J.D. Haines, Jr., Skiatook

SPECIAL
Leaders in Medicine: Allen E. Greer, MD 97
R. Green, Oklahoma City

NEWS
Resolutions and elections fill Annual Meeting agenda, 107... Subacute care responsibilities set by AMA, 108... Schedule of Business Events for 90th Annual Meeting, 109

DEPARTMENTS
Health Department, 110... In Memoriam, 112... Deaths, 112... Classifieds, 112... Capsules, 120... Alliance, 121... The Last Word, 122

ABOUT THE COVER

Allen E. Greer, MD, Oklahoma City cardiovascular surgeon, is featured this month as one of Oklahoma's Leaders in Medicine. He is the 30th physician to be so honored by the JOURNAL.

Art direction by Greg Gilpin, Graphic Arts Center, Oklahoma City.

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Beyond Sibling Rivalry

During the past few years, there has come to be a new and fractious quality to physician relationships in the Oklahoma medical community. Physicians have always been known to be competitory and somewhat intractable, but today the arguments go beyond rhetoric and are invested with a passion and hostility that tends to prevent rational solutions to the issues.

"Times are changing," some say, and therefore the old ways of handling medical disagreements are insufficient; changing times justify aggressive action—it is said. But we remember that "times" are *always* changing and that anger begets anger. Sadly, we physicians are now into such intense arguments that we no longer properly address the profession's problems and the patients' needs.

It is time to pause and introspect on the changes we feel, and to ask ourselves why they are so divisive.

The obvious change in the medical world is the startling advances in the technology of medical science; however, these costly improvements justify themselves through prolongation of human life and comfort. But another revolutionary medical change has been the creeping cataclysm in medical economics, and we have arrived at a state when patients no longer conduct the spending of their health care dollars. Government agencies, union stewards, and insurance contracts have effectively captured the health care cash flow. Consequently, physicians have now lost the control of physician income to the nation's politicians and to the accountants of the insurance industry.

Never have physicians been more anxious about financial security. Never before has physician income been more disconnected from personal ability and more dependent on the whims and connections of the third party payor to whom the physician is contracted. Never before has the capitalization of a medical practice been so costly that institutional capital is mandatory. Never before has the physician's portion of the health care money been determined by non-physicians to the extent that exists today. Medicine's financial options have been taken captive.

The resultant pervasive anxiety about money appears to energize and amplify many physician arguments today, especially in medical association and medical staff disagreements. Whereas formerly physician discussions were primarily about medical differences of opinion, now they are mostly, even though sometimes indirectly, about economic or financial issues.

The December 21, 1995, *New England Journal of Medicine* article entitled "Extreme Risk—The New Corporate Proposition for Physicians" analyzes these phenomena and emphasizes the pervasiveness and universality of these worrisome patterns of physician behavior.[1] Most physicians are now caught in the quicksand of declining economic independence, and the activities of the medical association seem to offer the only possibility of succor, or of a defense against the many economic threats. Thus, widespread financial anxiety is probably the new element that intensifies the passions of medical association disagreements.

During this time of decline in medical autonomy and in the significance of the individual physician's ability, the value of delivered medical care as a commodity has increased markedly. Health care is now one of the essentials of life, like water, food, and warmth, and the physician remains the essential agent in the delivery of this vital commodity.

Regardless of the level of physician anxiety about financial matters, we remember that there are things in human affairs that have not changed, and will not change. The human body still has the same anatomy, physiology, and emotions. All patients' reaction to injury and disease remain unchanged, and the patients' human needs are the same as ever. We also remember that we physicians still have the same emotions and the same basic needs that we had thousands of years ago when the shaman treated the cavemen. Human relationships have not been changed by society's technological changes.

So let us physicians become aware of our own money anxieties, and our inner distress at our loss of control to the medical administrators. Then let us establish an honest and honorable relationship with our fellow physicians, and work together to help the citizens of America reclaim their medical freedom.

Ray V. McIntyre, M.D.

1. *NEJM*. Vol 333, No. 25, p 1706.

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Thanks, Hope, and Other Things

A psychiatrist friend of mine recently shared with me a bumper sticker which he had seen on the bumper of an old pickup in the parking lot at the VA Hospital. The bumper sticker said, "I feel much better now since I've given up all hope." This is certainly an interesting reflection in times that are perceived to be difficult. This is an interesting reflection when we see that changes that have been made in our association have been made at great question and, oft times, with great pain. But a broader reflection allows me to express great hope in the future of our association. Under the leadership of our new president, Doctor David Harper, and a new executive director that will be named in the month of April, I am extremely encouraged and possess great hope that the future of our association will be one of growth, one of solid principle, and one of a productivity which we have never seen. However, one word of caution must be made. Members in our association of fairness and good intent must stand shoulder to shoulder to counter the avaricious behavior of a small group of our membership. Only through the militant oversight of such behavior will we guarantee the continued strong posture of our association.

In closing, I would like to thank the members of our association for allowing me to serve as your president this last year. I would also like to thank Mr. David Bickham for many years of distinguished service in building this association into one of the most outstanding associations of any kind in this country. I would like to thank the executive and support staff for their years of devotion and dedication to the principles that have made our association great.

Finally, I would like to wish our new president, Doctor David Harper, and the new leadership of our association fair winds and smooth sailing.

Larry Long

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Community-Acquired Pneumonia in Oklahoma: Characteristics and Management of Hospitalized Medicare Beneficiaries

Dale W. Bratzler, DO; Cynthia K. Murray, PhD; Lisa J. Bumpus, RN; Lori L. Moore, RN

The Oklahoma Foundation for Medical Quality initiated a cooperative project to evaluate the management of community-acquired pneumonia in Oklahoma Medicare beneficiaries. We reviewed the medical records of 767 patients discharged with a principal diagnosis of pneumonia during fiscal year 1993 from 20 hospitals. Of the 757 cases that met criteria for analysis, 92 (12%) died during hospitalization. There were significant differences between patients who survived and those who died with respect to patient age, admission source, and absence of indicators of severe pneumonia. Deviations from the American Thoracic Society guidelines for the treatment of community-acquired pneumonia were demonstrated with regards to the collection of routine sputum gram stains and cultures, blood cultures, and thoracentesis. We also demonstrated variations between hospitals in the timing of the first dose of antibiotic administered after admission of the patient. Based on this project, there appear to be opportunities for improvement in the care provided to patients admitted to the hospital with pneumonia.

The analyses upon which this publication is based were performed under Contract #500-92-0619, entitled "Fourth Scope Peer Review Organization Contract for the period from 1 October, 1993, through 30 September, 1994," awarded under Title XI of the Social Security Act by the Health Care Financing Administration, Department of Health and Human Services.

Direct correspondence to Dale W. Bratzler, DO, Oklahoma Foundation for Medical Quality, Inc., 5801 Broadway Extension, Suite 400, Oklahoma City, OK 73118-9984.

Pneumonia continues to represent a major health problem in the United States. Up to 4 million new cases of pneumonia are diagnosed each year, with up to 20% of these patients requiring hospitalization.[1] Although pneumonia is not a reportable disease, the combined cause-of-death category pneumonia and influenza represents the sixth leading cause of death and the most common cause of death due to infectious disease.[2]

The incidence of pneumonia and its associated mortality increases with age. Reported hospitalization rates vary from 1.0 admission per 1,000 population in the United States for people ages 15 to 44 to rates exceeding 11 admissions per 1,000 in patients aged 65 and above.[3] Pneumonia represents the most common reason for hospitalization of patients older than 85 years of age.[4] Although co-morbid illness and pneumonia etiology affect the outcome of patients being treated for pneumonia, the results of several studies have demonstrated that age itself, independent of other factors, increases the risk of complications or death from pneumonia.[5,6] In 1989, 78% of all pneumonia and influenza deaths occurred in patients aged 65 or greater and in 1992 this rate had risen to 89%.[2,7]

In 1993 the American Thoracic Society (ATS) published guidelines for the initial management of adults with community-acquired pneumonia.[8] These guidelines review the initial assessment of the patient, assessment of severity, and review the use of initial empiric antibiotic therapy in these patients. The guidelines categorize patients based on the initial evaluation of the patient including

This new approach emphasizes analysis of patterns of care rather than case-by-case review...

To ensure reliability of the information collected from the medical records, 100% of the cases were re-reviewed by a second abstractor...

need for hospitalization, severity of illness, presence of coexisting disease, and the patient's age.

The Health Care Quality Improvement Program (HCQIP) represents the Health Care Financing Administration's new approach to quality improvement in the Medicare program. The Oklahoma Foundation for Medical Quality (OFMQ) initiated a local HCQIP cooperative project to evaluate the management of community-acquired pneumonia in Oklahoma hospitals. This new approach emphasizes analysis of patterns of care rather than case-by-case review and emphasizes educational feedback rather than punitive interactions between the peer review organization and providers.[9] This cooperative project evaluating the management of pneumonia was based on the guidelines published by the ATS. The following review summarizes the findings of this cooperative project.

Materials and Methods

Utilizing MEDPRO* data for fiscal year 1993 (October 1, 1992 through September 30, 1993), information was collected regarding hospital discharges with a principal diagnosis of pneumonia (ICD-9-CM codes 480.0 through 487.0). A query of this data base provided 11,538 discharges from which OFMQ selected a sample. Hospitals selected for participation in the project varied with respect to the total number of pneumonia discharges, hospital size based on licensed beds, and geographic location. All hospitals selected for participation in the project had fewer than 200 licensed beds. A random sample of approximately 50% of the pneumonia discharges from each of these hospitals was selected for review.

The data collection form and project concept were reviewed and modified by the members of a multidisciplinary study group made up of representatives from some of the study hospitals. Along with administrative and demographic data regarding the patient, information was collected regarding any exclusion criteria (transfer from another facility, documented HIV infection, cytotoxic treatment within the previous month, history of organ transplantation, death within 4 hours of admission, or diagnosis coding error), patient co-morbid conditions, and initial severity of illness. In addition, information regarding initial diagnostic testing of the patient including sputum gram stain, sputum culture, blood culture, and serologic tests for atypical pathogens was collected. Information regarding the results of the initial chest x-ray and documentation of thoracentesis in patients with pleural effusions were collected. The time of arrival and arrival location (emergency room, intensive care unit, or routine floor care) were noted and the timing of the first dose of antibiotic and choice of antibiotic was recorded.

Co-morbid conditions summarized from the medical records included chronic obstructive pulmonary disease, chronic liver disease, chronic renal failure, diabetes mellitus, congestive heart failure, and previous hospitalization within the previous year. Indicators of severe pneumonia included a respiratory rate greater than 30, systolic blood pressure less than 90 mmHg or diastolic blood pressure less than 60 mmHg, blood urea nitrogen (BUN) greater than 20 mg/dl, PaO_2 of less than 60 mmHg or $PaCO_2$ greater than 50 mmHg, mechanical ventilation, pulse oximetry less than 90%, chest x-ray showing bilateral or multilobe involvement, use of vasopressors, and the presence of oliguria or documented renal failure.

To ensure reliability of the information collected from the medical records, 100% of the cases were re-reviewed by a second abstractor regarding the data items related to timing of the first dose of the antibiotic and performance and tim-

Table 1: Patient Characteristics at Admission

Characteristic	n=757
Average Age	79.2
Race	
White	704 (93%)
Black	26 (3%)
Native American	25 (3%)
	[2 ND]*
Sex	
Male	367 (48%)
Female	390 (52%)
Admit Source	
Home	500 (66%)
Nursing Home	245 (32%)
	[12 ND]*
Co-morbid Condition (1 or more)	509 (67%)
Indicator of Severe Pneumonia (1 or more)	594 (78%)
Hospitalization within 1 Year	188 (25%)
Prior Antibiotic Treatment	219 (29%)

* Not Documented

*MEDPRO originates from the MEDPAR (Medicare Provider Analysis and Review) file which contains post-payment information on all hospital inpatient Medicare stays.

ing of the initial diagnostic studies including sputum gram stain and culture, and blood cultures.

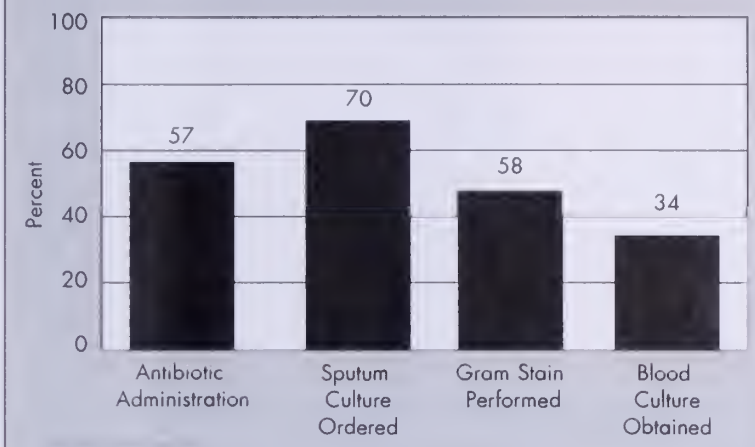
Patient survival time was calculated as the difference between the patient's date of admission and death date as reported in MEDPRO or censored at March 22, 1995 (last reported death date). The product-limit method of Kaplan-Meier[10] was used to estimate the survival distribution and from this distribution the median survival time was estimated. Differences between characteristics of those patients who survived to be discharged from the hospital and those who died during the admission were determined using a two-tailed t-test or a chi-square analysis.

Results

Charts were reviewed for 767 cases selected from 20 hospitals. There were 10 cases excluded from the analysis (7 transfers, one on cytotoxic drugs, one that died within 4 hours of admission, and one with an incorrect diagnosis coded) resulting in a final analysis of 757 cases. Patient characteristics are summarized in Table 1. The average age of the patients was 79.2 years and 704 (93%) of the patients were white. The most common admission source for this sample was home (66%) while 32% of the patients were admitted from a nursing home. Almost 25% of the patients had at least one prior hospitalization within the previous year.

The majority of the patients admitted to the hospital first presented to the emergency room (68%) and were admitted to routine floor care (94%). Prior antibiotic therapy was documented

Figure 1: Initial Management of Pneumonia*



* Interventions within 4 hours of arrival to the hospital. Represents aggregate data for all 20 hospitals in the project.

Figure 2: Timing of First Antibiotic Dose

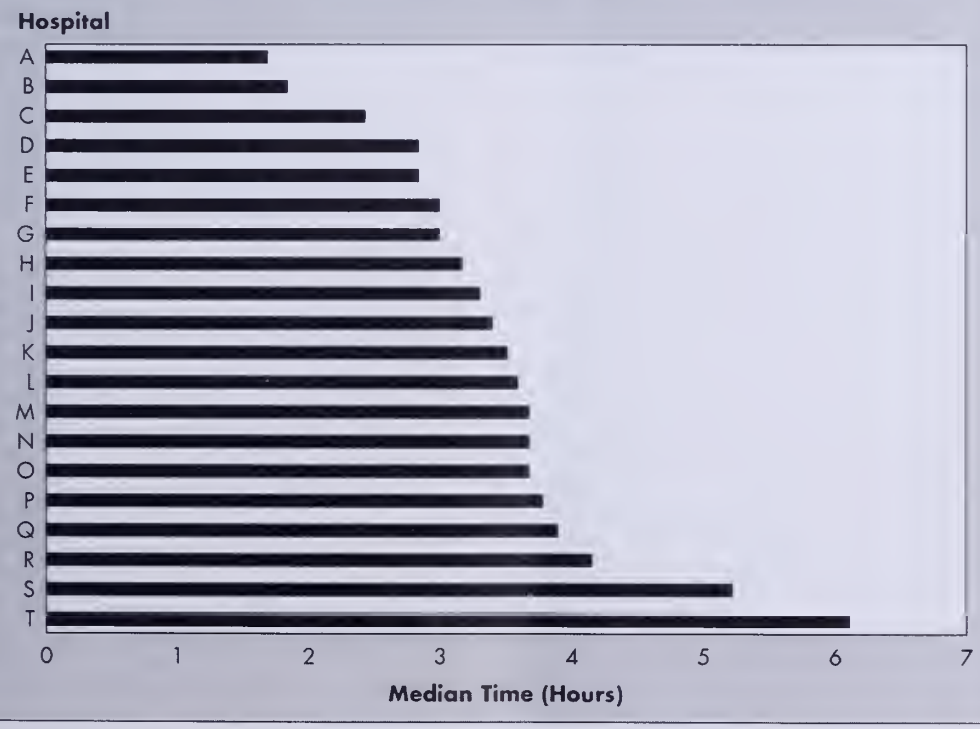


Table 2: Empiric Antibiotics Mostly Commonly Utilized*
Ceftriaxone
Cefotaxime
Cefazolin
Ticarcillin-clavulanic acid
Ampicillin-sulboctom
Ceftazidime
Aztreonom
Erythromycin
Ciprofloxacin
Cefoperazone
Gentamicin
Ampicillin

* In order of frequency

Table 3: Demographics with Respect to In-hospital Mortaltiy			
	Lived (n=665)	Died (n=92)	p-value
Age			
Meon	78.9	81.6	p = .01
SD	10.0	9.2	
Sex			
Mole	319 (48%)	48 (52%)	p = .45
Femole	346	44	
Race			
White	614 (93%)	90 (98%)	p = .06
Other	49	2	
[2 ND]*			
Admission Source			
Home	458 (70%)	42 (46%)	p < .001
Nursing Home	196	49	
[12 ND]*			
Co-morbidity			
None or only oge	220 (33%)	28 (30%)	p = .61
≥ 1	445	64	
Severity Indicator			
None	160 (24%)	3 (3%)	p < .001
≥ 1	505	89	
Antibiotic			
≤ 4 hours	383 (58%)	50 (54%)	p = .56
> 4 hours	282	42	

* Not Documented

in 29% of the patients. At least one indicator of severe pneumonia was present in 78% of the patients on admission. An elevated BUN was the most common indicator present followed by tachypnea, hypotension, and hypoxemia. Chest radiograph reports were suggestive of pneumonia in 85% of the patients within 48 hours of admission and in 24% of the patients, the chest radiograph report suggested the presence of a pleural effusion.

The initial diagnostic tests performed on patients admitted with pneumonia are demonstrated in Figure 1. Sputum cultures were ordered in 70% of the patients within four hours of arrival to the hospital with only 60% of these patients having a sputum specimen obtained. In those patients in whom the sputum was obtained, 58% had a gram stain performed. Blood cultures were obtained in only 34% of the patients. Of those patients with chest radiograph evidence of a pleural effusion, only 3% had documentation of a thoracentesis. An organism was identified in 314 (63%) of the 495 patients who had a sputum culture collected. The most commonly cultured organism in this group of patients was *H. influenza* followed by *S. pneumoniae* and *S. aureus*. Serologic testing for atypical organisms was performed in 5% of the patients.

The initial dose of antibiotics was administered within four hours of hospital arrival to 57% of the patients admitted with pneumonia. The median time to administration of the first dose of antibiotic was 3.5 (range 1.6 to 6.1) hours with considerable variation demonstrated between providers (Fig. 2). Only 9% of the patients who presented to the emergency room received their first dose of antibiotic in the emergency room. The most commonly administered antibiotics on admission included ceftriaxone and cefotaxime, with a wide variety of antibiotics being utilized (Table 2).

Demographics with respect to in-hospital mortality for the patients are demonstrated in Table 3. Of the 757 cases reviewed, 92 (12%) died during hospitalization. Significant differences between patients who survived and died were demonstrated with respect to the patient's age, admission source, and the absence of indicators of severe pneumonia.

During fiscal year 1993 there were 11,538 patient discharges (10,221 patients) from hospitals in Oklahoma with a principal diagnosis of pneumonia. Of the 10,221 patients, 1,351 (13%) died during their last hospitalization and at one year, 4,015 (39%) of the patients were dead (Fig. 3). The estimated median survival for all patients was 23.4 months based on Kaplan-Meier survival analysis (Fig. 4).

Discussion

This project was undertaken to profile current practice patterns and variations between hospitals in the management of patients admitted with community-acquired pneumonia. The guidelines published by the ATS suggest a variety of routine diagnostic studies in patients admitted with community-acquired pneumonia. These include routine PA and lateral chest radiograph, sputum gram stain and culture, two sets of blood cultures, and a variety of routine laboratory tests. Our review demonstrated that chest radiographs were completed in the majority of the patients and were usually consistent with pneumonia based on reported infiltrates. Routine gram stains or cultures of sputum were obtained less consistently. The ATS guidelines recommend a diagnostic thoracentesis in patients with a pleural effusion, however, this procedure was performed in only 6 of the 179 patients with a pleural effusion noted in the chest radiograph report.

Blood cultures were obtained on admission in only 34% of the cases reviewed. When positive, blood cultures usually provide a definitive etiologic diagnosis in addition to providing valuable information about the patient's severity of illness and prognosis. Up to 30% of blood cultures may be positive in elderly patients with gram-negative pneumonia or pneumococcal pneumonia.[11] Routine serologic testing and cold agglutinin measurements are not recommended during the initial evaluation of the patient with community-acquired pneumonia by the ATS and these tests were not commonly performed in the sample we reviewed.

The most commonly cultured organism in our sample was *H. influenza* which was isolated in 21% of positive sputum cultures. *S. pneumoniae* was present in 14% of positive specimens. Other organisms including *S. aureus*, *K. pneumoniae*, methicillin-resistant *S. aureus*, *P. aeruginosa*, *M. catarrhalis*, and *E. coli* were commonly reported on sputum cultures. The high prevalence of infection with *H. influenza* in the cases reviewed is consistent with reports of increasing incidence of this organism in elderly patients and patients with co-morbid conditions.[12,13]

We demonstrated considerable variation between hospitals in the timing of the administration of the first dose of an antibiotic. In 1993 the Forbes Health System reported significant reductions in hospital length of stay, mortality, and hospital costs when they implemented a clinical pathway for patients with community-acquired pneumonia.[14] The pathway included routine standing orders for patients admitted with pneumonia and made provisions for prompt collection of sputum specimens, blood cultures, and prompt administration of antibiotics (within 4 hours of the arrival). Other authors have shown similar reductions in patient length of stay and hospital costs by focusing on quality improvement strategies to reduce variation in the treatment of pneumonia or by identifying those patients at low risk of complications of their pneumonia.[15-19]

In the first edition of his textbook of medicine, Sir William Osler described pneumonia as the "special enemy of old age."[20] The association between pneumonia and mortality remains strong, based on our review. Advanced age, admission from a nursing home, and the presence

Figure 3: Statewide Pneumonia Mortality

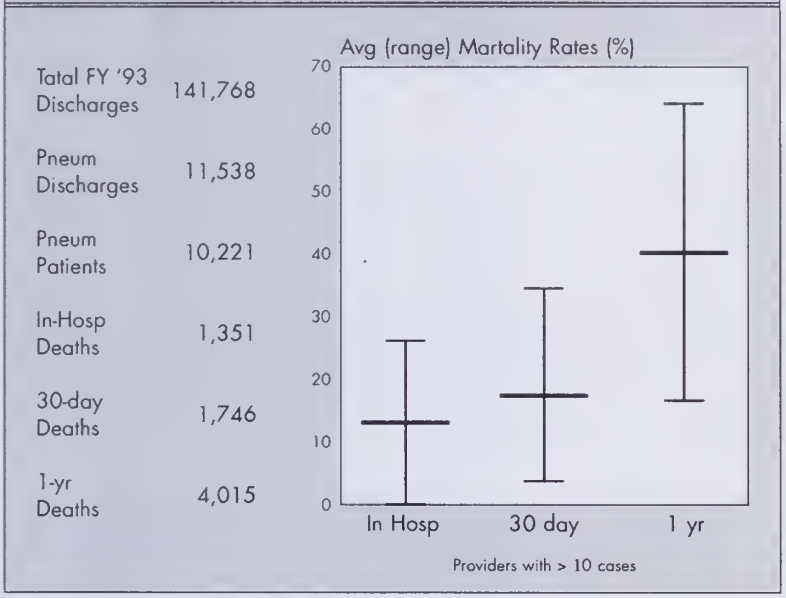
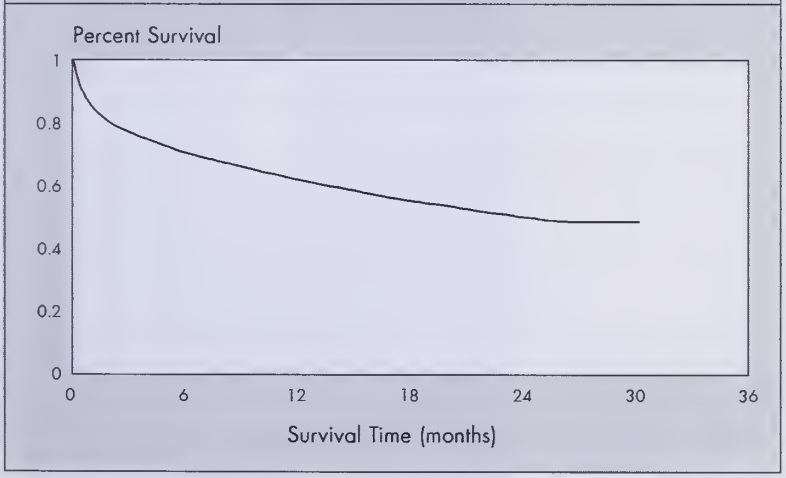


Figure 4: FY '93 Pneumonia Discharges

Survival Distribution



of indicators of severe pneumonia were all significantly associated with death during the hospital admission. This data is consistent with identified prognostic factors for death with pneumonia that have been previously reported.[2,5,6,8,21,22] Our retrospective review did not demonstrate significant differences in mortality between patients based on administration of antibiotics within 4 hours of arrival to the hospital; however, the outcomes of this review cannot be compared to the results of studies that report prospective and multidisciplinary interventions for patients admitted with pneumonia.

Conclusion

Pneumonia represents a common reason for hospital admission of Medicare beneficiaries in Oklahoma and is associated with a high mortality rate. This review demonstrated variations between hospitals in the management of pneumonia and deviations from the guidelines for management of community-acquired pneumonia as published by the American Thoracic Society. Based on this review, there appear to be opportunities for improvement in the care provided to patients admitted to the hospital with pneumonia. ◻

Acknowledgments

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References

1. Campbell GD. Overview of community-acquired pneumonia. Prognosis and clinical features. *Med Clin North Am* 1994;78:1035-1048.
2. Centers for Disease Control. Pneumonia and influenza death rates United States, 1979-1994. *MMWR Morb Mortal Wkly Rep* 1995;44:535-537.
3. Garibaldi RA. Epidemiology of community-acquired respiratory tract infections in adults. Incidence, etiology, and impact. *Am J Med* 1985;78(supple 6B):32S-37S.
4. May DS, Kelly JJ, Mendlein JM, et al. Surveillance of major causes of hospitalization among the elderly, 1988. *MMWR CDC Surveill Summ* 1991;40:7-21.
5. Farr BM, Sloman AJ, Fisch MJ. Predicting death in patients hospitalized for community-acquired pneumonia. *Ann Intern Med* 1991; 115:428-436.
6. Marrie TJ. Epidemiology of community-acquired pneumonia in the elderly. *Semin Respir Infect* 1990;5:260-268.
7. Centers for Disease Control: Pneumonia and influenza mortality—United States, 1988-89 season. *MMWR Morb Mortal Wkly Rep* 1989;38:97.
8. Niederman MS, Gass JB, Campbell GD, et al. Guidelines for the initial management of adults with community-acquired pneumonia: diagnosis, assessment of severity, and initial antimicrobial therapy. American Thoracic Society. Medical Section of the American Lung Association. *Am Rev Respir Dis* 1993;148:1418-1426.
9. Jencks SF, Wilensky GR. The health care quality improvement initiative. A new approach to quality assurance in Medicare. *JAMA* 1992;268:900-903.
10. Kaplan EL, Meier P. Nonparametric estimation from incomplete observations. *J Am Stat Assoc* 1958;53:457-481.
11. Musgrave T, Verghese A. Clinical features of pneumonia in the elderly. *Semin Resp Infect* 1990;5:269-275.
12. Mandell LA. Community-acquired pneumonia. Etiology, epidemiology, and treatment. *Chest* 1995;108:35S-42S.
13. Fang GD, Fine M, Orloff J, Arisumi D, et al. New and emerging etiologies for community-acquired pneumonia with implications for therapy. A prospective multicenter study of 359 cases. *Medicine* (Baltimore) 1990;69:307-316.
14. McGarvey RN, Harper JJ. Pneumonia mortality reduction and quality improvement in a community hospital. *QRB Qual Review Bull* 1993, Apr;19(4):124-130.
15. Rollins D, Thomasson C, Sperry B. Improving antibiotic delivery time to pneumonia patients: continuous quality improvement in action. *J Nurs Care Qual* 1994;8:22-31.
16. Dempsey CL. Nursing home-acquired pneumonia: outcomes from a clinical process improvement program. *Pharmacotherapy* 1995;15:33S-38S.
17. Berkey T. Benchmarking in health care: turning challenges into success. *Jt Comm J Qual Improv* 1994;20:277-284.
18. Fine MJ. Pneumonia in the elderly: the hospital admission and discharge decisions. *Semin Respir Infect* 1990;5:303-313
19. Weingarten SR, Riedinger MS, Varis G, Noah MS, et al. Identification of low-risk hospitalized patients with pneumonia. Implications for early conversion to oral antimicrobial therapy. *Chest* 1994;105:1109-1115.
20. Osler W. *Principles and Practice of Medicine*. New York, D. Appleton and Co., 1892.
21. Torres A, Serra-Batlles J, Ferrer A, Jimenez P, et al. Severe community-acquired pneumonia. Epidemiology and prognostic factors. *Am Rev Respir Dis* 1991;144:312-318.
22. Marfin AA, Sporrer J, Moore PS, Siefkin AD. Risk factors for adverse outcome in persons with pneumococcal pneumonia. *Chest* 1995;107:457-462.

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MRI of Lightning Injury: Early White Matter Changes Associated with Cerebral Dysfunction

Walter J. Milton, MD; R. Hal O'Dell, MD; Ernest G. Warner, MD

A previously healthy male was struck by lightning. He developed neurologic deficits, including mild cerebral brain dysfunction. Magnetic resonance imaging (MRI) showed numerous foci of hyperintensity on long TR images, scattered throughout the supratentorial white matter. To our knowledge, the early MRI findings of lightning injury have not been previously reported.

Case Report

A previously healthy 46-year-old male was working on a mobile storm tracking unit when he was struck by lightning. He was thrown backward violently, but did not lose consciousness, strike his head, or suffer any focal burns to indicate entry or exit points of electrical current. Pain in the left arm as well as paresis in the left leg developed immediately. He was initially treated at a nearby hospital.

Eight days following the injury, the patient was transferred to our institution for rehabilitation. The pain and paresis had resolved, although an ataxic, broad-based gait persisted. His speech was slurred but appropriate. He had difficulty in processing and in obeying simple one-step commands. MRI was done at this time. The long TR images demonstrated multiple small foci of hyperintensity in the supratentorial white matter, predominately in the immediate subcortical region (Fig. 1). They demonstrated no evidence of mass effect or enhancement. They were not apparent on the short TR images. The study was otherwise unremarkable. The patient was previously a healthy individual and had no history of diabetes, heart disease, prior head trauma or any other past medical problems to account for the abnormal MRI findings.

The gait abnormality subsequently resolved. He continued to have difficulty with abstract reasoning, attention, and concentration. He also experienced some episodes of transient confusion.

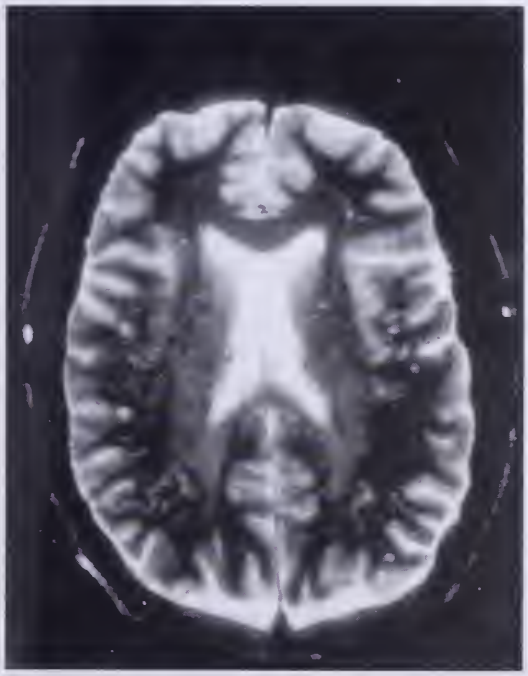

Figure 1. TE 90, TR 2500. Numerous foci of increased signal are present, predominately in a subcortical distribution.

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Formal neuropsychological testing indicated mild cerebral dysfunction and cognitive impairment (Halstead-Reitan impairment 0.3).

Discussion

Lightning injuries are a complex and poorly understood form of trauma. In the United States, approximately 300 persons are struck by lightning every year with approximately two-thirds surviving.[1] Depending on the entry site and path of current, almost any organ system may be affected. Various neurologic sequelae have been reported secondary to electrical injury, including hemiplegia, paresthesia, aphasia, seizures, ataxia, personality changes, coma, and death.[2,3] At the time of lightning strike an intense systemic vasoconstriction occurs.[4,5] Central nervous system injury in lightning may be caused by either injury to local blood vessels, producing ischemia and/or hemorrhage, or global hypoxia associated with transient cardiac and respiratory failure. Other postulated mechanisms have included: thermal injury, direct electrolytic effect of a current passing through tissue, and direct mechanical effects of a strong current passing through the brain.[6] Histologic findings have included cerebral edema, perivascular hemorrhage, demyelination, reactive gliosis, and neuronal death.[7] A large intracranial hemorrhage secondary to lightning injury has previously been shown with computed tomography.[1,8]

A review of the literature shows only one published case of electrical injury with MRI correlation.[3] In that case, the patient was recovering (without neurologic deficit) four months after a high voltage (power line) injury when he acutely developed headache, hallucinations, and a seizure leading to respiratory and cardiac arrest. An MRI obtained shortly after the event demonstrated "diffuse bilateral damage, which was mainly subcortical, in the temporal, parietal and frontal lobes." The symptoms completely resolved within seventy-two hours, following the institution of antihypertensive and anticonvulsive medications. A second MRI examination six weeks later showed "almost complete resolution of the abnormal findings." The patient had undergone a twenty-one day course of cyclosporine therapy early in his clinical course. At four months he experienced acute hypertension with extreme fluctuations (up to 290/220 mmHg). This clinical scenario suggests hyperintensive encephalopathy, cyclosporine toxicity, and/or postanoxic ischemic change as possible causes of the imaging abnormalities rather than the late onset electrical injury postulated by the authors.

With respect to lower voltage injuries, we can find no documented evidence of MRI abnormality. A prospective MRI study performed before and after electroconvulsive therapy demonstrated no evidence of acute MRI changes.[9]

In conclusion, to our knowledge this is the first report to describe early white matter changes on MRI following lightning injury, with good correlation between the MRI finding and the nature of the neurologic deficit. J

References

1. Stanley LD, Suss RA. Intracerebral hematoma secondary to lightning stroke: case report and review of the literature. *Neurosurgery* 1985;16:686-688.
2. Farrell DF, Starr A. Delayed neurologic sequelae of electrical injuries. *Neurology* 1968;18:601-606.
3. Eldad A, Newman A, Weinberg A, et al. Late onset of extensive brain damage and hypertension in a patient with high voltage burns. *J Burn Care Rehabil* 1992;13:214-217.
4. Apfelberg DB, Masters FW, Robinson DW. Pathophysiology and treatment of lightning injury. *J Trauma* 1974;14:453-460.
5. Currens JH. Arterial spasm and transient paralysis from lightning striking an airplane. *Aviation Med* 1945;16:275-277.
6. Pritchard AB. Changes in the central nervous system due to electrocution. *Lancet* 1934;1:1163-1167.
7. Rowland LP, Ed. *Merritt's Textbook of Neurology*. Philadelphia: Lee and Febiger, 1989:445.
8. Mann H, Kozic Z, Boulos MI. CT of lightning injury. *AJNR* 1983;4:976-977.
9. Coffey CE, Weiner RD, DJang WT, et al. Brain anatomic effects of electroconvulsive therapy—a prospective magnetic resonance imaging study. *Arch Gen Psychiatry* 1991;48:1013-1021.

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Unfortunately for managed care, physicians are still indispensable to the health care system

Mismanaged Care

Joe D. Haines, Jr., MD

One of the most famous works of art to grace saloons of the 19th Century American West was entitled "Custer's Last Fight." The prints were generously provided by the Anheuser Busch Brewing Company to their loyal customers. I have a framed copy hanging behind my desk and occasionally consider the embattled General Custer, hopelessly surrounded as he makes his famous last stand.

One day it occurred to me that Custer and his troops were a metaphor for today's medical profession. In recent years physicians seem to have been constantly under siege, dodging arrows from lawyers, administrators, insurance companies and now the most formidable opponent of all, big business. The managed care–HMO industrial complex represents very big business to the medical community.

A revealing article in the *Wall Street Journal* recently reported that the five largest HMOs have encountered a serious problem. They are taking in such enormous sums of cash that they are having difficulty finding ways to invest it. One HMO is profiting around 100 million dollars per month! The *New York Times* reported this year that CEOs of managed care organizations were receiving paychecks of up to $7 million. Of course, it would be unthinkable to ask the HMOs to consider lowering their premiums to the consumer or increasing their reimbursement to the providers. That is because health care is now simply about making profits.

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If good health care happens to be delivered along the way, well then, that is okay too, but not at the expense of profits. If the consumer is unhappy, the physician remains the convenient target for a lawsuit. And just to make sure, many physicians unknowingly sign contracts with hold-harmless clauses which release the HMO from any liability should there be a malpractice judgment against the HMO for say… refusing to authorize a diagnostic test the physician has recommended.

Unfortunately for managed care, physicians are still indispensable to the health care system. Physicians tend to forget this in the rush to sign away more and more of their rights and privileges. Nothing will ever replace the sanctity of the doctor-patient relationship. Physicians must never think of themselves as mere providers. Physicians are members of an ancient and noble profession, recognized and set apart by society for some 10,000 years. Believe me, nobility and sanctity are totally alien concepts in the cut-throat world of American business.

Some have advocated an old-fashioned revolt, but physicians are a notoriously independent group and big business has capitalized on this lack of solidarity on our part, so, unfortunately, physicians have turned out to be their own worst enemy. In the stampede not to be left out, physicians are selling their professional souls to the devil. And now we have a new breed with a ready bow and quiver full of arrows, the so-called physician-executive. These "doctors" will readily negotiate away their colleagues' independence since their allegiance is to the man-

aged care–HMO entity that employs them. The best advice is to be wary and look out for yourself, because if you don't, it's likely that no one will.

Until physicians band together to seek a solution, we will continue to be viewed as part of the problem. Health care should not be marketed like potato chips. Big business is setting the stage for a flood of malpractice litigation by promising perfectionistic health care which gives consumers unreasonably high expectations. When something goes wrong, the consumer will be much more likely to sue since the marketing department of the health plan promised all these wonderful things. And very likely, the traditional physician-patient bond will be weakened, since insurance plans and thus providers change so frequently. And who will be the scapegoat? The physicians, of course, especially the ones imprudent enough to sign contracts with hold-harmless clauses.

So what's a doctor to do? If you're near retirement, now might be a good time to bow out. If not, some sacrifices will surely need to be made in the "do more for less" atmosphere in which we now operate. While physicians are bloodied, they are not yet beaten. They are a resourceful and resilient group used to making tough sacrifices. Let's hope that our patients, the consumers, are as willing to make the sacrifices big business will ask of them. J

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Leaders in Medicine

Allen E. Greer, MD

Equilibrium: A condition in which all acting influences are canceled by others, resulting in a stable, balanced system.

No matter the complexity of the surgery or the outcome, whether he had restored the patient's health or lost the patient on the table, Allen Greer's behavior seldom varied. He never got too high or low. He showed up and worked long, hard, and well, sometimes brilliantly, never ostentatiously, and although there was plenty of potential in his line of work to develop a God complex, he remained low-key but up-beat.

Long-time colleagues say that was so from the beginning of his career in the early 1950s, when his specialty, cardiovascular surgery, was in its infancy and the obstacles to good outcomes were daunting. And it was still so after technology had enabled Greer to improve the life of virtually every patient.

This unflappability also applied to his interpersonal relationships. As the senior man in partnership with two other extremely talented heart surgeons with big egos, Nazih Zuhdi and John Carey, Greer kept the team together doing an incalculable amount of good for very ill people for nearly thirty years. That doesn't mean they didn't and wouldn't have made important contributions individually, but the total of their collaboration was

Story by Richard Green
Photography by Robert Taylor

Allen Greer and his wife Juanita go over some correspondence at home.

always greater than the sum of its parts. Without Greer's stabilizing influence, the partnership would not have survived, let alone flourished. The major contributions to the development of an effective heart-lung machine would not have been made in Oklahoma.

It seems cruelly ironic, then, that after a lifetime of exercising such remarkable equilibrium, he should lose so much of it in just one day last April. He fell to the kitchen floor and a vessel in his brain ruptured. Perhaps it was the other way around. He found he couldn't get up but remained conscious for most of the next twelve hours until he was discovered after not showing up for surgery. During all those hours, Greer says he thought his problem was a broken hip; the notion of a stroke never entered his mind.

His left side was partially paralyzed, a condition that has improved bit by bit through rigorous physical therapy. He can walk a little now, but it was not only his physical equilibrium that was damaged.

The stroke also impaired the part of the brain that holds emotional feelings in check. Sitting in his wheelchair in his home, hard by the Oklahoma City Golf and Country Club, recalling persons and events from his past, he mentions the sacrifices that his parents made for him, and weeps. Later, in describing how open-heart surgery had transformed an invalid into a robust, productive person, he again is overcome.

He says he has made much progress since April and hopes to recover enough to operate again. But why would a 78-year-old stroke victim even want to operate again? "Because I've always enjoyed it," he says. Greer uses an economy of speech that suggests, under the circumstances, that he is saving his strength. But as Juanita, his wife of more than 50 years, notes, he doesn't enjoy talking about himself. It's not becoming. That attitude is characteristic of his Depression-era upbringing in rural Oklahoma. Or as the local chamber of commerce undoubtedly must have said: You can take the boy out of Kingfisher, but you can't take Kingfisher out of the boy.

Significantly, Greer says his greatest honor wasn't being inducted into the Oklahoma Hall of Fame in 1992 or receiving any of the closet full of awards from his medical peers. The honor he esteemed the most was induction into the Kingfisher High School Hall of Fame. Although this remark may seem disingenuous, later he says one of his most prized possessions is a post-surgery photograph taken several years ago of himself and a 3- or 4-year-old boy. Greer had repaired his congenital heart defect and the boy's parents wanted a commemorative snapshot. Later, they sent Greer a copy. In 1994, the boy's father visited Greer in his office and gave him another snapshot of the boy, now a robust-looking young man. "You made this possible," said the man. In recounting this story, Allen Greer struggles to maintain his equilibrium, and loses. But who is to say that these tears are stroke-related?

***

Allen Greer was born in Lincoln, Nebraska, in 1918, but he didn't hang around long. After his father, Vancil Greer, graduated from law school there, he packed up his family and, full of idealism and optimism, headed west seeking his fortune; he wound up in Hennessey, Oklahoma. Actually, the move was purposeful. Hennessey was where he had met his wife, Hetta Carol, and both sets of parents still lived. The action, however, seemed to be 18 miles down U.S. 81 in Kingfisher and that is where Vancil and Hetta Carol raised their four children, Vancil, Jr., Allen, Janet, and Carroll.

Vancil ran for Kingfisher county judge and was elected but didn't cotton to the work and served only one term. He started a law practice and served as attorney for some insurance companies. He enjoyed serving his clients except during the Depression when he had to foreclose on farms owned by the insurance companies. Allen remembers his father telling him how painful these actions were. Once, some of the desperate dispossessed farmers kidnaped Vancil and an insurance company official. After a long drive north during which the victims were repeatedly told that they would be killed, they were left on the Great Salt Plains. Vancil was relieved but not angry. Such acts of despera-

tion were common, a product of the times and, as John Steinbeck wrote, a system that ground up a lot of hard-working honest people. While the Greers got through the Depression better than most, virtually no one was unscathed.

Always interested in politics, Vancil met Robert Kerr and became an enthusiastic supporter. "I think he and mother both spent considerable time helping Mr. Kerr feather his nest," Allen says. After Kerr was elected governor, Vancil was rewarded with a seat on the state Corporation Commission. "At first Dad liked it," says Greer, but his father soon learned that corruption was the lubricator of the squeaky wheel. When the unexpired term he had been appointed to fill was up, he announced he would not be a candidate for the job.

Still, the family was happy and active; the children were smart and, as they all knew, college bound. Their parents were prepared to sacrifice, to do whatever was necessary to get them through college.

Unlike his older brother, Vancil, Jr., who was known as a "brain," Allen was an indifferent student. "I was serious about girls and sports." At five-ten and 145 pounds, Allen was on both the wrestling and football teams. On the gridiron, he was the center because "I was the only one who could remember the snap count."

Though the two brothers were different in many ways, they were only 15 months apart in age and were "extraordinarily close." One summer day when Vancil was 17 and Allen was 15, the older boy stopped to swim in a farm pond. Since he apparently was alone, no one knows what happened, but his body subsequently was pulled from the pond. The impact on the close-knit family was devastating, but may have had a longer-lasting effect on Allen. In addition to grieving and mourning for his best friend, he probably grappled at least subconsciously with imponderables such as: Why Vancil? Why not me?

Allen drifted through high school, miserable from frustrating and disappointing his parents but unable to reform.

Hetta Carol was the strong one, Allen says, the one who held the family together. In the mid-1930s, she started a library in Kingfisher. Janet was studying library sciences at Oklahoma A&M and helped her mother catalog the books. Thereafter, Hetta Carol and other volunteers kept the library open. Her picture is displayed there today, commemorating her role as the founder.

Allen enrolled at Oklahoma A&M in 1936, primarily because his older sister Janet was there working at the agricultural library and he could live with her and her husband. As soon as he arrived in Stillwater, something positive kicked in. Maybe it was the change of setting, but his grades and MCAT were so good that he was accepted to the University of Oklahoma Medical School after only two years of college.

Why did Greer want to become a physician? He says he can't remember what he told the admissions committee or what the real reasons were either. "I just sort of drifted into it." Perhaps. He wasn't thinking about becoming a doctor until he decided to major in pre-med. But studies have shown that a major factor in the decision to attend medical school is a death having occurred in the immediate family.

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He liked the "orderliness" of science and didn't doubt that doctoring would be a good profession for him. But he was unprepared for the avalanche of material directed his way by the good professors. "I never got caught up." Apparently, neither did anyone else; Greer finished first in his class as a freshman and sophomore.

He did so despite a disruption to his routine during his sophomore year: his wedding to Juanita Pappe. They had grown up together in Kingfisher, and fell in love while they were in college. Still, they waited until their lives were a bit more settled. Each family gave them $50 a month, and they sold blood regularly. It was 1940 and the conflagrations in Europe and Asia were beginning, but Allen and Juanita were handling one day at a time.

"I liked best whatever clinical rotation I was in at the time," says Greer. After a moment of reflection, his memory clarifies: "Except for psychiatry. Very little could be done for those patients at Central State (a state mental hospital in Norman) and that bothered me. The only thing I liked about it was they arranged to have class there on the morning of game days in the fall."

Come to think of it, Greer says, he didn't like internal medicine that much, either. "Not enough action." He

Allen and grandson Chuck Streich celebrate the bagging of Chuck's first quail in 1992. Behind them, Pat, the Brittany who made it all possible, prefers to watch for more birds.

Allen and Juanita celebrate their 50th wedding anniversary on January 25, 1990. With them are daughter Pam Greer, grandchildren Chuck and Greer Streich, daughter Janet Streich and her husband Fred.

liked delivering babies, anything pediatric, and surgery. But the main attraction for him wasn't the discipline so much as it was the good teachers, like Burt Mulvey and "Cowboy" Keltz, so named because he "rode everybody so hard." When he graduated in 1942, Greer thought he'd probably go into general practice but it seemed almost ridiculous to say so. He had to intern first and then, the way things looked, he'd be in the war.

His class standing (second to Jack Gable over the four years) opened doors to internship programs everywhere. He chose Colorado General Hospital in Denver. From there in the summer 1943, he went into active duty in the Army and was assigned to a hospital in Greenland. From there, bombers and ground troops embarked for the European theater, as that part of the war was known. Greer worked with about sixty other doctors in the station hospital. He says he was either very busy or very bored. Sometimes both. "To pass the time we used to go up the fjord and ice fish for sea trout. We often caught enough to feed the entire hospital."

In the winter, there was skiing but it was dangerous owing to the absence of regular ski trails. One day Greer saw a surgeon friend of his plunge to his death. Conditions were such that it took rescuers more than an hour to reach the man.

At times, fatalism seemed to hang in the air. "Troops about to see action got into high-stakes crap games and an astounding amount of money changed hands," recalls Greer. After a few months in Greenland, Capt. Greer asked to be reassigned to Europe. However, his superiors denied his request and told him he was crazy for asking.

After eighteen months, his duty assignment was changed, to Brook General Hospital, a service separation center in San Antonio, Texas. He did some surgery and had good teachers who encouraged him to enter a surgery residency program. His experience at Brook was good enough to substitute for a year of residency. He applied and was accepted to a surgery residency at the Cleveland Clinic.

Before moving his family from Oklahoma to Cleveland, he stopped by the OU medical school to visit a plastic surgeon, John Burton, who had been one of his favorite instructors. "He told me, 'I'm going to give you some advice you're not going to pay any attention to, but eventually you will see that I was right. You will spend four or five years in a residency and when you get through you won't have anything, and all of these years will be very hard on you and your family. What you should do is take some refresher courses and go to a small town and practice. You'll make more money and you and your family will be happier.'"

Sitting in his wheelchair in the sun room of his home nearly fifty years after not following that advice, Greer says Dr. Burton was right. And lest his visitor think this is some sort of post-stroke musing, he says he came to that conclusion several years ago. Dr. Karl Boatman, a surgeon and friend, says Greer had mentioned that several times in the past but Greer's view was academic because it had had no impact on his career as one of the state's premier surgeons. "With Al's superb rapport with his patients, he would have been an excellent family physician," Boatman says.

However, if Greer had chosen that path, Boatman suggests the history of thoracic and cardiovascular surgery in Oklahoma would be altogether different. "He was not only a pioneering

In Denver, Allen and Juanita attend the 1992 high school graduation of granddauther Greer Streich.

surgeon, but through his example and teaching he influenced so many of us in important and indelible ways. He was as good as the Good Lord makes."

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Allen Greer's surgical training came at an auspicious time. During those five years, as he focused more and more on cardiovascular surgery, it was clear to him that the field would come of age only when some means had been devised to stop the heart while keeping the patient alive and well for the duration of the operation. News was that at least two small groups at academic centers were beginning to work diligently toward that goal. Meanwhile, Greer was training at the Cleveland Clinic, including a year of surgical pathology and two years of general surgery. He could see he had genuine facility for the work and realized that he was technically superior to the senior residents. In 1949, Dr. Don Effler, the clinic's first thoracic surgeon was hired and Greer became his first resident. Also, by this time, the Greer family was complete. Allen and Juanita had a son, Allen, Jr., and daughters Janet and Pam.

With such responsibilities, Greer must have been tempted to start practicing in 1950. But he knew he needed another year of chest surgery and, to really benefit, that final year of training would have to be someplace else. The clinic's head of surgery had a brother who was chief of cardiovascular surgery at two teaching hospitals in Los Angeles. Greer spent his fifth and final year of residency there, and especially enjoyed his time at Children's Hospital.

Actually, working with the kids was a mixed blessing. He loved being with them; their absence of guile, and honesty and innocence appealed to him and he was learning some new surgical techniques that enabled him to repair some congenitally damaged hearts. Sometimes, he could widen a constricted heart valve with a knife attached to his finger as the child's heart continued to beat. In these few cases, he was literally curing children who otherwise would have continued to suffer and die.

But these were anxious if not terrifying instances for Greer because he could not see the defect. He couldn't be sure, operating blindly, that he wouldn't make things worse. His goal was to help develop a heart-lung machine. By 1951, he was a superbly trained thoracic and cardiovascular surgeon; he was the ninety-ninth board certified thoracic surgeon in the U.S. He had his choice of positions and if events had been different, he might have chosen to lead or align himself with a major research team.

But his parents and Juanita's parents were elderly and ill and the young couple wanted to be close to

During World War II, Allen Greer was stationed at a hospital in Greenland. When they weren't deluged with patients, the 60 doctors at the base often spent time skiing or ice fishing.

The Greers prepare for a big night out—Allen's induction into the Oklahoma Hall of Fame on November 13, 1992. Between Juanita and Allen are daughters Pam and Janet, and Janet's son Chuck.

them. So, Dr. Greer started his practice in Oklahoma City in the summer of 1951. He was the first board certified thoracic and cardiovascular surgeon in the state, but when he arrived it wasn't much of an overstatement to say that his certificates and a nickel would get him a cup of coffee.

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Since most doctors in the state didn't know what Allen Greer could do, he didn't get many referrals. A couple of general surgeons were doing some chest surgeries in 1951, but Greer says they had little to offer to patients or to him (as prospective partners.) He made himself readily available for emergencies even in outlying areas and began giving talks about his specialty to doctor groups around the state.

Most of his early work involved pulmonary problems. He operated on TB patients at the sanitarium in Clinton every week; he suctioned secretions patients couldn't expel; he treated aspirations and removed foreign bodies (often beans, which he grew to hate) from the airways of children. "The first time I saw him in 1952, he was walking down the hall at Mercy Hospital, leaning way over against the weight of carrying his instruments, his bronchoscope, in a big box," says Shirley Howard, who was the hospital's surgical secretary. "Surgeons carried their instruments with them in those days."

Karl Boatman met him that same year, when he was an intern at St. Anthony Hospital. "I was drawn to him immediately for a number of reasons. He was cool and totally committed to the patient. Later, when I was a surgery resident at Wesley Hospital, he and I scrubbed together a good deal and I learned that he was both an artisan technically and a great teacher.

"He also was determined to deliver better patient care. Every Wednesday afternoon, he did research on the rudiments of a pump oxygenator system in a lab at the Oklahoma Medical Research Foundation. I also assisted him with several closed-heart surgeries, mainly on children with mitral valve or patent ductus impairments, and when we'd lose one, I'd swear that was it for me. I didn't handle those very well. With Al, though, you couldn't tell he was affected."

According to Boatman, Greer was philosophical, not emotional. He knew he was the child's only hope anyway and he had to keep trying to progress. He also knew that things were going to change for the better soon. After the war, residency programs began expanding to accommodate the MDs who wanted more training or to specialize.

Already in the early 1950s, he was getting referrals from Oklahoma's first and only board certified cardiologist, Wiley T. McCollum. Over the next few years, other well-trained cardiologists like John Donnell and Galen Robbins sent patients to Greer. In 1955, cardiovascular surgeon John Carey arrived from the Mayo Clinic and soon became Greer's partner, and although Greer did not have a full practice, they benefitted from one another by almost always assisting at the other's operation.

Still, most of their surgical load was not cardiovascular. It was perilous, to say the least, to operate on the inside of a closed beating heart. There was one other alternative: hypothermia and Greer used it to do the first open-heart surgery in Oklahoma. After anesthetizing the patient, the body temperature would be decreased by submerging the patient in ice water. After cardiac arrest had been induced, Greer would have about eight minutes to repair defects inside the heart. "It was nerve wracking because diagnostic imaging was so poor that I never knew what I was going to find," Greer says. "Sometimes eight minutes wasn't nearly enough. It was terribly frustrating to discover defects that could be repaired if I had the time. But even so, hypothermia was very dangerous to other organs. I used it only a handful of times."

Greer paid the expenses for most

of his animal studies on the pump-oxygenator system, according to Peggy Johnson, his scrub nurse, lab assistant, and "girl Friday" from 1953 to 1962. "That's how dedicated he was to improving patient care," she says. But as good as his training had been, Greer had not been exposed to them first-hand and his research progress was slow. Since there were only two or three sites in the nation working diligently on these models, only a few people had any in-depth research experience.

One who did was recruited by surgeon John Schilling to the University of Oklahoma Medical Center in 1958. He was Dr. Nazih Zuhdi, who had been working on experimental pump oxygenators in the group of Dr. Clarence Dennis since 1951. Much progress had been made by 1958; more experimental animals as well as patients were surviving open-heart surgery, but until about 1960, according to Zuhdi, there were fewer than than seventy-five open-heart surgeries annually performed across the country. Despite still formidable obstacles, investigators believed they were closing in on developing a safe, reliable cardiopulmonary bypass apparatus.

Schilling introduced Zuhdi to Greer and almost immediately they saw the mutual benefit of working together. With John Carey, they formed a partnership. Greer and Carey would do most of the operating while Zuhdi was continuing his research on the pump oxygenator and producing the scientific papers. On the other hand, Zuhdi would perform or assist at some surgeries and Greer and Carey would assist with the research. According to their agreement, the income from their surgeries would be split equally three ways and a portion would fund the research. Furthermore, all three names would be listed as authors of the published research papers.

Both Zuhdi and Greer say the arrangement proved to be satisfactory and quite productive.* "Our first years were our happiest times together," Greer says. "We spent more time together than we did with our wives."

*John Carey declined to be interviewed for this story

Wearing the medallion indicative of his membership in the Oklahoma Hall of Fame, Allen Greer shares the moment with colleagues John Chaffin, Christiaan Barnard, and David Vanhaaser.

Shirley Howard left Mercy Hospital to be their office manager in 1960. "The three men were very different," she says. "As the senior man and leader, Dr. Greer was a model of calm in those hectic days. No days were alike; schedules were adjusted and rearranged all the time. Emergencies were almost routine. Dr. Carey was more excitable but quite personable. He loved to talk about all kinds of things and had a great sense of humor. Dr. Zuhdi was way ahead of his time on the importance of diet. We used to eat lunch together a lot and he insisted that we eat tuna or salmon. He bought other food from the health food store on Tenth Street and we'd all sit around eating Tiger Milk bars and carob bars."

During such times, the partners would discuss the research, Peggy Johnson says. Zuhdi would explain what he had been doing or thinking about and Carey and Greer would comment or make suggestions. "Although Nazih was doing most of the research, Al still played an important role, but we'll probably never know the true extent because he was, is, so modest."

Karl Boatman says each man brought remarkable strengths to the partnership. "They were all excellent surgeons, very confident in their ability, and each in his own way was brilliant. John Carey was an intellectual and exuded self-confidence. Nazih was always very creative, egocentric, and arrogant. And yet they deferred to Allen out of respect. He was the stabilizing influence, and it is a testament to him that such strong personalities stayed partners and were enormously productive for so many years."

Zuhdi says, "Allen was a great facilitator of the research. He gave me the stability and protection I needed to do the work and progress." He says after University Hospital turned them out and St. Anthony turned them down, "Allen convinced Sister Mary Coletta, the administrator of Mercy

Hospital, to take us on. Our lab was on the first floor of the hospital."

Mercy turned out to be an excellent location because cardiologist Wiley McCollum had set up the state's first heart catheterization lab there. This diagnostic lab, Greer notes, was essential to realizing the group's goal of providing safe and effective open-heart surgeries and coronary artery bypass surgeries not just performed by them at Mercy but by cardiovascular surgeons who would be practicing across the state in future years.

As Zuhdi got his pump oxygenator up and running, he would test the various parameters, such as pump pressure, to see what worked and what didn't. Refinements in the equipment were necessary and for help the team recruited Garman Kimmell, president of Oklahoma City-based Kim-Ray Corporation, which designed and made valves, pumps, and other stainless steel parts for industry, most notably the oil industry.

Kimmell says he was fascinated with their research and volunteered to add his expertise in mechanics and hydrodynamics. He says he spent about twenty percent of his time on the project and never charged the team anything for the parts he made or his participation. By 1960, the team was using a heart-lung machine that

Above, working hord to recover fully from o recent stroke, Allen Greer concentrates on instructions from physicol theropist Deidre Robinson. Greer goes to the grueling sessions five days o week.

Right, Juanita Greer helps her husband work through his hand therapy.

may have looked like hell (two insulated thirty gallon garbage cans contained the hot and cold water for heating and cooling the blood), but worked just fine.

All the major problems had been solved and patients could be hooked up to the machine safely for the duration, however lengthy, of the operation. Physicians and scientists from around the nation and some foreign countries came to Oklahoma City for a look. One of them, according to Zuhdi, a Dr. Malmo from Sweden, said they should get rid of the unsightly garbage cans (for storing warm and cool water) and as a result Garman Kimmell designed an aesthetically pleasing set of reservoirs, which made the heart-lung machine marketable. Kimmel says researchers at other sites were furious that the Oklahoma City team included somebody "who made parts for oil wells." Greer recalls attending an early sixties meeting at which Houston heart surgeon Denton Cooley opined that the Oklahoma group didn't know what it was doing. But the documentation to the contrary had been published in several journal articles over the life of the project.

More than thirty years later, the versions of how this accomplishment was achieved vary appreciably. The full story of the team's work is very detailed and compelling, and should be published because the Oklahoma investigators have never gotten the universal credit that they deserved for the critical role they played in the development of the machine that revolutionized cardiovascular surgery. Zuhdi says he clearly played the pivotal role in the problem solving and describes it step by step, but the research papers he published in scientific journals don't usually delineate individual roles or merit. He says Kimmell just did what he was told to do. Kimmell provides many examples of improvements he made and says some of the ideas that were adapted to the heart-lung machine date back to 1939, to his original designs for gas and oil-field work.

Although Greer was often present during those sessions, he says it was impossible to know the origin of all the improvements and, characteristically, he doesn't much care. But he does credit Zuhdi with the idea and research for perhaps the group's single most important innovation: hemodilution. Priming the heart-lung machine with sugar water almost eliminated the need for cross-matched blood and turned out to be beneficial to the surgical patient.

Inevitably, Zuhdi and Kimmell had a falling out in the early 1960s and Kimmell left the group, to Greer's regret, but both men still agree that the project would not have been possible without the steadying influence of Allen Greer. When Zuhdi published a book on heart transplantation, he dedicated it to Allen Greer. And when Kimmell's wife needed cancer surgery several years ago, Greer did the operation.

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Through the sixties and seventies the three partners stuck together even as their individual practices changed and moved north to the new Baptist Medical Center. They were doing more coronary artery bypass surgeries and, as pediatric heart surgeons emerged, fewer operations on children with congenital heart defects. Excellent cardiovascular surgeons were emerging from residency programs in Oklahoma City and elsewhere and Greer favored amalgamating the best ones into the practice. First, there was Bill Hawley, then Jim Hartsuck, Darryl Fisher, Marvin Peyton, and Scott Lucas. As the group got bigger, things got more complicated; it was no longer possible to just divide up time and money equally.

John Carey retired in 1984 and Zuhdi says he was anxious to move on to heart transplantation. He was named by the Baptist Medical Center to establish and direct a transplantation service. Greer wanted to participate as the transplant surgeon for his patients but not give up his surgical practice. Meanwhile, the program was launched with great fanfare as Zuhdi announced that Dr. Christiaan Barnard, who performed the world's first heart transplant, was joining the team. Greer thought it was an astute public relations move, but didn't realize that Barnard no longer performed surgery.

Zuhdi and Greer did the state's first heart transplants and then heart-lung transplants, but when Zuhdi wouldn't permit Greer to care for his own transplant patients, he resumed his surgical practice full time.

By 1990, Greer was 72 years old, and while he sold the cattle business he had started in 1975, he had no thought of giving up his practice, even after he suffered a slight stroke one day on a golf course. "They cleaned out my carotids and I was good as new." He could still restore health and vigor to the lives of his patients and that, as always, was a great feeling. Moreover, he believed he was as good or better technically than ever. He also enjoyed helping his younger partners, especially with ung surgeries.

Greer's second stroke, a hemorrhage in the brain, left him with debilitating, possibly irreversible physical damage. His five-day-a-week physical therapy sessions have been grueling, and limited function of his left side has returned. His goal has been and is to return to his practice, but as Christmas of 1995 approached, he was beginning to talk about enjoying what he has right now. He and Juanita were looking forward to the visit of their two daughters and two grandchildren. The daughters are Janet, a former pediatric nurse now studying accounting and Pam, who recently served with the Peace Corps in the Caribbean. The grandkids, Janet's two children, are Chuck and Greer. Son Allen, Jr., a herpetologist ("Growing up, my son always had snakes in our house"), is curator of the natural history museum in Sydney, Australia.

Sitting by the Christmas tree, Greer says, "A guy my age (77) who has had two strokes, well, the odds of living another five years aren't too good. My neurologist argues with me about that, saying the two strokes weren't related, but I've never had high blood pressure,

Juanita and Allen Greer share same quiet time at home together.

so that blowout in my brain, I think, probably means arterial disease."

Whether he can resume his practice or not, Greer has other goals, which involve a bank in his old hometown of Kingfisher. He took a seat on the board in 1960 when the bank had assets of six million dollars. Today that bank, with Greer as part-owner and still on the board, has assets exceeding 350 million dollars. During that time, Greer's bank acquired control of seven other financial institutions in western Oklahoma. When a merger with a company that owns three other banks occurs early in 1996, the combined assets will total one billion dollars. Greer wants to see that merger through and help with a plan proposed to his bank by two Oklahoma City Baptist ministers that would help empower members of racial minorities.

The idea is to take a dedicated portion of the money donated every Sunday from a large network of Southern Baptist churches and put it into an earning fund for the benefit of minorities to help develop businesses. "We are working on developing adequate internal controls for the fund and when that has been completed, we will be ready to go," Greer says. "It's very exciting and I hope to be around to see the first recipients. They need a chance and this can make a great difference in their lives." J

Resolutions and elections fill Annual Meeting agenda

The Oklahoma State Medical Association House of Delegates will meet on April 26-28, 1996, at the Southern Hills Marriott in Tulsa. Resolutions to be considered by the House of Delegates must be received by the OSMA 30 days prior to the Opening Session. The deadline for resolutions is March 26, 1996. Late resolutions will be considered at the discretion of the OSMA Board of Trustees.

Resolutions may be submitted by any OSMA member or component society. Resolutions and other reports will be discussed during reference committee meetings on the afternoon of April 26. Any OSMA member may testify before a reference committee. Reference committee reports will then be presented for further debate at the Closing Session of the House of Delegates on Sunday morning, April 28. Those eligible to vote in the house are OSMA general officers (president, president-elect, immediate past president, vice-president, secretary-treasurer, speaker and vice-speaker of the House of Delegates, and chair and vice-chair of the Board of Trustees); delegates and alternate delegates to the AMA; trustees and alternate trustees; delegates and alternate delegates elected by the component county societies, the Young Physician Section, the Medical Student Section, the Resident Physician Section, and the Hospital Medical Staff Section; all past presidents of the association; and the deans of the recognized medical schools in Oklahoma, provided they are members of the association, are eligible to vote.

OSMA staff is available to assist physicians in researching and preparing resolutions and putting them in proper form. Send resolutions to the OSMA to the attention of Mary Anne McCaffree, MD, Speaker of the House.

In addition, the OSMA will elect officers, trustees, AMA delegates, and members of the Physicians Liability Insurance Company Board of Directors during the meeting.

OSMA President Larry L. Long, MD, Oklahoma City, will become immediate past president after the meeting. Tulsa's David Harper, MD, now president-elect, will automatically become president. Elective positions to be filled are president-elect and vice-president. David M. Selby, MD, Enid, is the current vice-president and Carol B. Imes, MD, Oklahoma City, is in the first year of a two-year term as secretary/treasurer. Mary Anne McCaffree, MD, Oklahoma City, speaker of the house, and Boyd O. Whitlock, MD, Tulsa, vice-speaker of the house, also are in the first year of two-year terms.

Three delegate slots in the AMA delegation are up for election. Incumbents eligible for reelection are Jay A. Gregory, MD, Muskogee surgeon; Sara R. DePersio, MD, Oklahoma City preventive medicine specialist; and Perry A. Lambird, MD, Oklahoma City pathologist. Any physician wishing to run for an AMA delegate post must have served at least one term as an AMA alternate delegate or as a general officer of the association.

Four alternate AMA delegate slots also are open. Incumbents eligible for reelection are Dr. Mary Anne McCaffree, MD, Oklahoma City neonatologist; Larry L. Long, MD, Oklahoma City surgeon; Gary L. Paddack, MD, Ada internist; and Greg Ratliff, MD, Tulsa plastic surgeon.

All candidates for AMA delegate and alternate delegate positions run on an "at large" basis. There must be at least twice as many candidates for alternate delegate positions as there are available slots (e.g., if there are four [4] slots open, there must be at least eight [8] candidates). If 25 days prior to the election there are not twice as many candidates as open positions, the OSMA Executive Committee shall solicit candidates to run for the positions.

All candidates for AMA delegate and alternate delegate positions must be active members of the association. Active members are defined in the OSMA Bylaws as "members of component societies whose dues and assessments are fully paid."

All candidates for AMA delegate and alternate delegate positions must provide a letter of nomination signed by a member of the OSMA House of Delegates. The letter of nomination must arrive at OSMA headquarters 25 days prior to the elec-

Subacute care responsibilities set by AMA

At its interim meeting in December, the American Medical Association's House of Delegates approved for distribution the following *Guidelines for Physician Responsibilities for Subacute Care:*

1. Physicians are responsible to their patients for delivery of care in all subacute care settings 24 hours a day, 7 days a week.
2. Patients who might benefit from subacute care should be admitted to and discharged under the orders of the physician who is responsible for the continuous medical management needed to meet the patient's needs and safety and maintaining quality of care.
3. Physicians are responsible for coordinating care for their patients with other physicians including medical directors, primary care physicians, and appropriate specialists, to optimize the quality of care in subacute settings.
4. Physicians are responsible for supervision and coordination of the medical care for their patients and providing leadership for all other health care providers in subacute care.
5. Physicians should guide procedures for their patients performed within integrated practices and direct other health care providers, consistent with federal and state regulations.
6. Physicians are responsible for:
   - Fulfilling their roles and identifying the medical skills needed lo deliver care in subacute facilities and for creating and developing continuing medical education to meet the special needs of patients in subacute care
   - Identifying and appropriately utilizing subacute care facilities in their communities.
   - Oversight of physician credentialing in subacute settings
   - Promoting medical staff organization and by-laws that may be needed to support peer evaluations
   - Planning care of their patients with acute and chronic conditions in subacute care, as well as pursuing efforts to restore and maintain functions for quality of life.
7. Subacute units and/or programs need physician medical directors to assure quality of medical care, provide peer group liaisons, and coordinate and supervise patients and families input and needs.
8. Physicians provide a plan of care for medically necessary visits after completing an initial assessment within 24 hours of admission that identifies the medical services expected during subacute care.
9. Attending physicians should:
   - Make an on-site visit to review the interdisciplinary care plan within seventy-two hours of admission
   - Determine the number of medically necessary follow-up visits; these may occur daily but never less often than weekly
   - Document active involvement of physicians in interdisciplinary care and all major components of the patient care plan including completing a progress note for each patient visit.
10. Physicians should implement these guidelines through organized medical staff bylaws in subacute settings to assure quality patient care. J

Reference AMA Board of Trustees Report 21-I-95

Annual Meeting *(continued)*

tion. Elections will be held on Sunday, April 28. Therefore letters of nomination must be received by the OSMA by April 3, 1996.

AMA delegates and alternates serve two-year terms and are required to attend two national meetings a year, one in June in Chicago and another in late November/early December at other sites. Delegates and alternate delegates elected in April will be expected to attend the AMA House of Delegates meeting in June.

Six (6) positions are open on the PLICO Board of Directors. John A. McIntyre, MD, chair of the PLICO Board of Directors, has announced he will not stand for reelection. Incumbents eligible for reelection are Shelby D. Barnes, MD, Oklahoma City urologist; Billy Dale Dotter, MD, Okeene family physician; James D. Funnell, MD, Oklahoma City obstetrician/gynecologist; Tim K. Smalley, MD, Stillwater internist; and Kenneth W. Whittington, MD, Bethany family physician. PLICO board members serve three (3) year terms and are expected to attend bi-monthly board meetings.

Several trustee positions also must be filled.

From Oklahoma County, Trustee Clarence Robison, Jr., MD, is eligible for reelection, as is Alternate Trustee Royice B. Everett, MD.

From District XI (Atoka, Bryan, Choctaw, Coal, McCurtain, and Pushmataha counties), Trustee Robert H. Hayes, MD, is eligible for reelection, as is Alternate Trustee Jone Kendrick, MD.

In District XII (Carter, Garvin, Johnston, Love, Marshall, Murray, and Pontotoc counties), Trustee Gary L. Paddack, MD, is ineligible for re-election. Alternate Trustee James V. Miller, MD, is eligible for re-election. J

April is
Neural Tube Deficit
Prevention Month in
Oklahoma

Schedule of Business Events for 90th Annual Meeting

The 90th Annual Meeting of the Oklahoma State Medical Association House of Delegates will be held April 26-28, 1996, at the Southern Hills Marriott in Tulsa. The OSMA Board of Trustees will meet on Thursday, April 25. The meeting is open to all OSMA members and attendance is encouraged at this, the OSMA's largest annual gathering.

The luncheon on Friday promises to be informative, with the OSMA planning to demonstrate its new on-line communication system entitled OK-MedONE. This new service will offer physicians the chance to browse the Internet and will provide yet another line of communication among OSMA members.

This year's OSMA/OSMAA Presidents' Reception and Banquet will honor President Larry L. Long, MD, and President-Elect David L. Harper, MD, as well as OSMAA President "K" Caldwell and President-Elect Barbara Jett.

OSMA members will receive ticket order forms in the mail and are urged to order prior to the meeting. Enclosed in the same mailing will be a hotel registration form for members' convenience in making reservations directly with the Southern Hills Marriott.

For OU College of Medicine Alumni events, call Carol Modisette at 405-271-3500.

The following is a tentative schedule of events:

Thursday, April 25, 1996

10:00 AM	Registration
11:00 AM	OSMA Executive Committee—*Salon E*
1:30 PM	OSMA Board of Trustees—*Salon E*

Friday, April 26, 1996

6:00 AM	Hospitality
7:00 AM	Registration
7:30 AM	OSMA Hospital Medical Staff Section Breakfast—*Dogwood*
7:30 AM	Oklahoma County Medical Society Caucus—*Redbud B*
7:30 AM	Tulsa County Medical Society Caucus—*Magnolia*
7:30 AM	Rural County Caucus—*Salon D*
9:00 AM	OSMA House of Delegates Opening Session—*Salon A/B*
Noon	OSMA Luncheon (Internet presentation)—*Sequoyah*
1:30 PM	OSMA Candidates Forum—*Birch*
2:30 PM	OSMA Reference Committees I, II, and III—*Salons A, B, & C*

Saturday, April 27, 1996

6:00 AM	Hospitality
7:00 AM	Registration
7:30 AM	OSMA Council on Rural Health Breakfast—*Dogwood*
8:00 AM	PLICO Loss Prevention Seminar—*Sycamore*
8:00 AM	OSMA Past, County Society, and Specialty Society Presidents' Breakfast—*Birch*
9:00 AM	Open Forum to Discuss the AMA Federation Study—*Pecan*
9:00 AM	OMPAC Meeting—*Redbud B*
10:00 AM	Council on Governmental Activities—*Salon C*
6:00 PM	OSMA/OSMAA Presidents' Reception—*Ballroom Foyer*
7:00 PM	OSMA/OSMAA Presidents' Inaugural Banquet (black tie optional)—*Salon A/B*

Sunday, April 28, 1996

6:00 AM	Hospitality
7:00 AM	Registration
7-9 AM	Voting—*Salon C*
7:30 AM	Oklahoma County Medical Society Caucus—*Redbud*
7:30 AM	Tulsa County Medical Society Caucus—*Birch*
7:30 AM	Rural County Caucus—*Sycamore*
9:00 AM	OSMA House of Delegates Closing Session—*Salon A/B*
11:30 AM	PLICO Forum (immediately following OSMA House of Delegates)—*Cedar*
11:30 AM	AMA Delegation Caucus and Lunch (immediately following OSMA House of Delegates)—*Pecan*

Child Bearing Age Women and Folic Acid—What's the Connection?

Neural tube defects (NTDs), spina bifida, and anencephaly are devastating birth defects which negatively affect families and society. NTDs occur when the embryonic neural tube fails to close at 26 to 28 days post-conception, before many women realize they are pregnant. Infants with anencephaly die shortly after birth. With the help of medical care, babies born with spina bifida reach adulthood, but usually suffer from varying degrees of disability related to paralysis, bowel and bladder incontinence, and hydrocephalus. Based on provisional statewide data from the Oklahoma Birth Defects Registry, there were 41 cases of NTDs in 1994 for a rate of 0.89 per 1,000 births in Oklahoma. The national cost of medical and nonmedical care related to spina bifida has been estimated at $324,000 per case.

A study published in the mid 1960s suggested defective folate metabolism in the mother could lead to fetal malformations, including central nervous system malformations.[1] Laurence et al conducted a randomized controlled double-blind trial to study the effect of folic acid supplementation on the prevention of the recurrence of NTDs among women treated with 4 mg of folic acid before and during early pregnancy. Smithells et al conducted a multicenter non-randomized study of the effects of folic acid on preventing subsequent NTDs and found similar results.[3] The Medical Research Council Vitamin Study, which began in July 1983, was conducted at 33 centers in seven countries.[4] Women at increased risk of having a pregnancy with an NTD, because of a previous affected pregnancy, were assigned to one of four groups: folic acid (4 mg), a mixture of seven other vitamins, both, or neither. With folic acid providing a 72% protective effect, the results were conclusive enough to end the trial early, allowing all women in the study to benefit from the protective effect of folic acid. The results of this study led the Centers for Disease Control (CDC) of the United States Public Health Service (PHS) to issue interim recommendations for women who have given birth to an infant or had a fetus with an NTD.[5]

While the risk of an NTD-affected pregnancy is greater in women with a previously affected pregnancy, 95% of NTD-affected pregnancies occur in women with a negative history. The Hungarian Family Planning Program trial, which began in 1984, found that periconceptional vitamin supplementation (containing 0.8 mg folic acid) reduced the incidence of a first occurrence of NTDs.[6] Preliminary results from this study, as well as results from the previous studies, led the PHS to issue a recommendation for all women of child-bearing age

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who are capable of becoming pregnant to consume 0.4 milligrams (400 micrograms) of folic acid per day.[7] The daily consumption throughout childbearing years is critical, because half of all pregnancies are unplanned. The Centers for Disease Control and Prevention estimate 50% of all NTDs can be prevented through this recommendation. Presently, the only way for women to achieve this recommendation is through the use of multivitamins containing 0.4 mg of folic acid and the consumption of foods high in folate. A multi-centered case-control study, published in 1993, found a 60% reduction in occurrence of NTDs in women who used vitamins containing folic acid.[8] This study provides the first direct evidence that 0.4 mg of folic acid, the dose in most over-the-counter multivitamins, reduces the risk of NTD occurrence.

The Council on Scientific Affairs of the American Medical Association (AMA) developed a report on folic acid.[10] The following recommendations relating to folic acid and NTD prevention were proposed by the council:

1. The AMA encourages broad-based public education about the need for women with childbearing potential to consume an adequate level of folic acid (400 micrograms per day) through intake of a well-balanced diet and through supplemental vitamins to reduce the risk of a child with an NTD. Women with a prior history of pregnancy affected by an NTD should consult closely with their physician on appropriate prevention steps before considering another pregnancy.

2. The AMA encourages the Food and Drug Administration (FDA) to continue its rulemaking process expeditiously to require fortification of cereal grain products with folic acid at an appropriate level to reduce the risk of NTDs. Based on available data, the AMA believes an appropriate fortification level for cereal grain products is 350 micrograms per 100 grams of cereal grain.

3. The AMA encourages the Centers for Disease Control and Prevention and state health departments to give priority to establishing monitoring programs to assess the implementation and effect of the NTD prevention programs.

The Oklahoma State Department of Health (OSDH) has the capacity to assess both the occurrence of NTDs in the state and the effectiveness of NTD prevention programs. The Oklahoma Birth Defects Registry utilizes active surveillance methodology to monitor birth defects and other adverse reproductive outcomes in stillborn infants and children up to two years of age. The statewide registry has modeled its surveillance procedures after those developed by the Metropolitan Atlanta Congenital Defect Program at the CDC. Surveillance of multivitamin usage by women of childbearing age is available through the Oklahoma Behavioral Risk Factor Surveillance System, begun in January 1996. This project conducts monthly telephone surveillance in Oklahoma and 49 other states. The questions were developed and are still supported by the CDC in the Office of Surveillance and Analysis. The OSDH will begin monitoring multivitamin use in the periconceptional period for 1996 births through the Pregnancy Risk Assessment Monitoring System (PRAMS). PRAMS is a population-based surveillance system used to collect data on a sample of women delivering a live birth in Oklahoma.

In 1995, the Gallup Organization conducted a national telephone survey of women between the ages of 18 and 45 years.[9] The women were asked questions regarding knowledge and consumption of folic acid. Of the nonpregnant women surveyed, 25% reported taking a daily vitamin supplement containing folic acid. Women who had been pregnant during the two years before the survey reported only 20% usage of vitamins before their pregnancy. The majority (70%) of women reported receiving information on health and pregnancy from their physician. However, of the 15% of women who were aware of the PHS recommendation on folic acid, 44% learned of the recommendation from a magazine or newspaper article and 21% cited radio or television, while only 17% reported hearing the information form their doctor. Physicians, regardless of their specialty, encounter women of child-bearing age daily in their practice. Considering the credibility women give advice from their physicians, the PHS recommendation to consume 0.4 milligrams (400 micrograms) of folic acid per day would be a critical prevention message Oklahoma physicians could share with their child-bearing age patients.

The OSDH and the March of Dimes Birth Defects Foundation are collaborating in a statewide campaign to inform women of the need to increase folic acid consumption. Through a proclamation from Governor Frank Keating, April has been named "Neural Tube Defect Prevention Month" in Oklahoma. The March of Dimes annual walk to prevent birth defects, entitled "Walk for Someone You Love— Walk America," will highlight the PHS recommendation through the "Folic Acid Green Ribbon Campaign." Each member of the walk will receive a card with a green ribbon attached. The card states the PHS recommendation, identifies foods high in folate, and instructs the ribbon be worn for 30 days; then the card and ribbon are to be passed to another person. The Oklahoma State Department of Health and March of Dimes invite all physicians to assist in eliminating this devastating birth defect through encouraging all women of child-bearing age to follow the PHS recommendation. J

References

1. Hibbard ED et al. Folic acid metabolism and human embryopathy. *Lancet*, 1965, 1254.
2. Laurence KM et al. Double-blind randomised controlled trial of folate treatment before conception to prevent recurrence of neural-tube defects. *British Medical Journal*, 1981; 282: 1509-1512.
3. Smithells RW et al. Apparent prevention of neural tube defects by periconceptional vitamin supplementation. *Archives of Disease in Childhood*, 1981; 56:911-918.
4. Medical Research Council Vitamin Study Research Group. Prevention of neural tube defects. results of the Medical Research Council Vitamin Study. *Lancet*, 1991; 338: 131-137.
5. Centers for Disease Control. Use of folic acid for prevention of spina bifida and other neural tube defects—1983-1991. *MMWR* 1991; 40: 513-516.
6. Czeizel AE et al. Prevention of the first occurrence of neural tube defects by periconceptional vitamin supplementation. *New England Journal of Medicine*, 1992; 327: 1832-1835.
7. Centers for Disease Control. Recommendation for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. *MMWR* 1992; 41 No. RR-14.
8. Werler MM et al. Periconceptional folic acid exposure and risk of occurrent neural tube defects. *Journal of the American Medical Association*, 1993; 269: 1257-1261.
9. *Preparing for Pregnancy*: A National Survey of Women's Behavior and Knowledge Relating to Consumption of Folic Acid and Other Vitamins and Pre-pregnancy Care. March of Dimes Birth Defects Foundation. June 1995.
10. Report 5 of the Council on Scientific Affairs (1-95). Folic acid: relationships to spinal closure birth defects and adult vascular disease. American Medical Association.

In Memoriam

1995

Robert M. Wienecke, MD ..... January 3
Mason Russell Lyons, MD ..... January 6
Wallace Byrd, MD ..... January 25
Herbert Victor Lewis Sapper, MD ..... January 26
Addison Bowling Smith, MD ..... January 31
Clifford Jennings Blair, MD ..... February 10
John Richard Danstrom, MD ..... March 5
Elmer William Taylor, MD ..... March 5
Othal Blair Cunnyngham, MD ..... March 14
George S. Bozalis, MD ..... March 21
William Gerald Rogers. MD ..... March 21
Charles Wesley Letcher, MD ..... March 26
John Frederick Bolene, MD ..... March 27
John B. Miles, MD ..... March 31
Elvus Jene Allgood, MD ..... May 6
Wiley T. McCollum, MD ..... May 13
Gerald Leon Honick, MD ..... May 24
William G. Husband, Jr., MD ..... May 25
Henry Washington Harris, MD ..... June 2
Joan Kazanjian Leavitt, MD ..... June 13
Lucien Michael Pascucci, MD ..... July 2
Glen M. Floyd, MD ..... July 8
Marvin Homer Hird, MD ..... July 18
Yale Eugene Parkhurst, MD ..... July 27
Joe Leslie Duer, MD ..... August 25
William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Millison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muehmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2

Deaths

Ted Samuel Edward Lewis, MD
1942 - 1996

Henryetta physician Ted S.E. Lewis, MD, died January 31, 1996. Dr. Lewis was born in New Mexico and graduated from the University of Oklahoma School of Medicine in 1976. He had a family practice in Henryetta for a number of years.

Earl I. Mulmed, MD
1915 - 1996

Earl I. Mulmed, MD, retired Tulsa internist and OSMA Life Member, died February 2, 1996. A native of Oklahoma City, Dr. Mulmed was graduated from the University of Oklahoma School of Medicine in 1937. He completed his internship in Los Angeles and Oklahoma City and then a fellowship in internal medicine at the Mayo Clinic in Rochester, Minn. He served in the U.S. Army during World War II, attaining the rank of lieutenant colonel. He established his private practice in Tulsa in 1947. Dr. Mulmed was a past president of the Oklahoma State Heart Association, past vice-president of the Oklahoma State Diabetes Association, and a member of the board of directors of the Tulsa County Heart Association. In 1986 he was named Doctor of the Year by the Tulsa County Medical Society Auxiliary.

Elbert Henderson Shuller, MD
1902 - 1996

OSMA Life Member Elbert H. Shuller, MD, died January 26, 1996, in McAlester. He was born in Ozark, Ark., and was graduated from the University of Arkansas School of Medicine in Little Rock in 1929. After serving a two-year internship in Oklahoma City, he established his medical practice in McAlester. In 1936, Dr. Shuller was a co-founder of the McAlester Clinic. He was the clinic's chief-of-staff for 14 years prior to his retirement in 1979. Dr. Shuller was a past president of the Pittsburg County Medical Society, past vice-president and trustee of the Oklahoma State Medical Association, and an alternate delegate to the American Medical Association for several years. J

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CAPSULES

■ The Oklahoma Board of Medical Licensure and Supervision (BMLS) explains in its January newsletter that it was not their intent to rule state doctors guilty of unprofessional conduct in prescribing any drugs for immediate family members. They point out that a reading of OAC 435:10-7-4 Unprofessional Conduct #26 states the prohibition concerns only controlled substances and addictive and dangerous drugs, not *all* medications. It allows such prescriptions in case of emergency when no other physician is available.

The next meeting of the Oklahoma Board of Medical Licensure and Supervision will be March 22 and 23, 1996. Members of the public are welcome to attend and copies of the agenda may be obtained by writing to Kathy Plant at the BMLS, P.O. Box 18256, Oklahoma City, OK 73154-0256. The BMLS offices are located at 5104 N. Francis, #C, in Oklahoma City.

■ The Jackson County Memorial Hospital Foundation has established a medical education scholarship fund in memory of Malcolm "Mac" Mollison, MD. A former member of the governing board of the Physician Manpower Training Commission, Dr. Mollison worked throughout his career to encourage students to enter the fields of medicine and nursing. Tax deductible contributions to the fund will be used to establish an endowment to perpetuate medical education scholarships for medical students and postgraduate nursing students who are Jackson County residents. Mail contributions to JCMH Foundation, P.O. Box 8190, Altus, OK 73521.

■ *The American Journal of Psychiatry* reported in February that, for the first time, psychiatric researchers using brain imaging techniques have actually seen inadequate activity involving the brain chemical serotonin in people who suffer from major depression. A causal link between depression and serotonin activity had been hypothesized by researchers for over a quarter of a century, and research has proceeded based on this hypothesis, despite the absence of direct visual evidence. In the new study, doctors from the New York State Psychiatric Institute, Columbia University, and the University of Pittsburgh compared six healthy individuals to six people diagnosed with major depression who had not been medicated for at least two weeks. Using *dl*-fenfluramine, a serotonin-releasing drug, doctors observed significant increases, as well as decreases, in metabolic activity in the left and right regions of the brain in the healthy subjects but not in those suffering from depression.

■ Cultures from 200 stethoscopes from Houston clinics and hospitals suggest that alcohol wipes between patients might be in order. Eighty percent of the stethoscope cultures grew identifiable microorganisms, of which 83% were species of Staphlyococcus and 58% of the staph species were resistant to methicillin. Physicians' stethoscopes were more often contaminated that those of nurses, medical students, physical therapists, or respiratory therapists. The report appeared in the January 8, 1996, *Archives of Internal Medicine.* J

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All manuscripts should approximate the style adopted by the American Medical Association as illustrated in *JAMA* and detailed in the AMA's *Manual of Style.* An abstract of 150 words or less should accompany each paper and should state the exact question considered, the key points of methodology and success of execution, the key findings, and the conclusions directly supported by these findings.

Bylines may contain no more than six (6) names and shall include only those individuals who can attest that they have contributed to the conception and design, or analysis and interpretation of data; and to drafting the article or revising it critically for important intellectual content; and to final approval of the version to be published. Other contributions may be recognized in an acknowledgment.

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OSMA Alliance sets Annual Meeting schedule

Once again the Oklahoma State Medical Association Alliance (OSMAA) will meet in conjunction with the Oklahoma State Medical Association for the annual meeting to be held April 25th to the 28th at the Southern Hills Marriott Hotel, Tulsa, Oklahoma.

This year the pre-convention board meeting will begin at 10:30 AM Thursday, April 25. After the meeting, at 12:30 PM, there will be a luncheon and a cooking demonstration given by Tulsa Alliance Member Judy Miller at her home. Luncheon and class size will be limited to 40 people.

At 3:30 in the afternoon, Toni Dobbins from Toni's Flowers will give a flower arranging demonstration at the hotel. The arrangements will then be given away as door prizes. At the same time the "Make It, Bake It, Grow It, Sew It, and Show It" auction to benefit AMA-ERF (American Medical Association-Education Research Foundation) will be open for silent bidding. The bidding hours will be from 3 PM to 6 PM Thursday and 9 AM to 4 PM Friday. Bidding is open to everyone: alliance members, nonmembers, and physicians.

Thursday evening at 6 PM busses will be available to transport guests to the Jarrett Farm Country Inn, Ramona, Oklahoma, for an outdoor picnic, weather permitting. Otherwise, food will be served indoors. This picnic is open to alliance members and spouses and there is a limit of 50 people. Drinks will be available for an additional charge. We should return to the hotel by 10 PM.

Friday morning will begin with breakfast honoring our county presidents, presidents-elect, state past presidents, and our American Medical Association Alliance officers and Southern Medical Association guest. After breakfast, the General Session will begin. There will be a luncheon for alliance members only with installation of officers and entertainment. Health Education Foundation scholarships will also be presented at this time.

Later Friday afternoon in the home of OSMAA President "K" Caldwell, members-at-large will be honored at tea. Transportation will be provided. Friday evening the OU Alumni Association will have their function.

Saturday morning the alliance adjourns the business portion of its annual meeting after the post convention board meeting and breakfast. Saturday evening the OSMA and OSMAA presidents' reception and dinner will be held at the hotel.

—Nora H. White
OSMAA State Convention Chair, 1995-96

■ **William L. Hughes, MD, Oklahoma City oncologist, has** resigned as the chair of the Oklahoma Medical Political Action Committee (OMPAC). OSMA President Larry L. Long, MD, has appointed OSMA Past President Jay A. Gregory, MD, to serve as OMPAC chair. The OMPAC board will meet in April during the OSMA Annual Meeting in Tulsa to discuss policy and elect officers.

■ **At a meeting last month, the Oklahoma State Board of** Health amended its regulations on HMOs to ban gag rules on what physicians can say to their patients regarding treatment options. Specifically, the Board of Health adopted the following language: "To forestall potential conflicts between the HMO's interests and the provider's fiduciary responsibility to the patient, the commissioner and the health department's staff should ensure that HMO provider contracts include the following safeguarding provisions: 1. The HMO does not practice medicine or any other profession, as per Section 2505 of the HMO licensing law; 2. The HMO's utilization review and quality assurance policies shall not be administered so as to interfere with the provider's obligation to exercise independent medical judgment; and 3. The HMO shall not retaliate in any manner against a provider who advocates services for patients. OSMA members on the Oklahoma Board of Health are: Gordon H. Deckert, MD, Oklahoma City; R. Brent Smith, MD, Lawton; Jay A. Gregory, MD, Muskogee; and Glen E. Diacon, Jr., MD, Ada.

■ **Susan M. Edwards, MD, Oklahoma City, has been** named vice-president of Medical Affairs for St. Anthony Hospital. Dr. Edwards is a board certified radiologist with twelve years of experience; in addition to her private practice she is a staff radiologist and section head of ultrasound and mammography. She was instrumental in establishing a new MRI center at the hospital and in expanding ultrasound and mammography services.

■ **The National Rural Health Association (NRHA) will hold** its 19th annual national conference on rural health, "Keeping Rural Healthy—A Community Challenge," May 15-18, 1996, at the Hyatt Regency Minneapolis Hotel, Minneapolis, Minn. The conference will focus on the tremendous impact that the changing healthcare environment is having on the provision of health care services in rural areas. For registration information, contact the NRHA, One West Armour Blvd., Suite 301, Kansas City, MO 64111, 816-756-3140.

■ **Tretinoin (Retin A), a vitamin A topical agent used to** treat acne, may have caused depression, slurred speech, and unsteadiness in a patient with hepatitis C, reports the January 15 *Annals of Internal Medicine Tip Sheet*. Symptoms abated when the patient stopped applying the tretinoin and returned when she resumed use of the acne medication. Tretinoin used topically has not previously been connected with neurologic complications, although large doses of oral vitamin A are known to be toxic.

■ **Dr. Larry Lewis, McAlester, has been presented the** 1995 Citizen of the Year Award in his community. The award is sponsored by the McAlester Chamber of Commerce. Dr. Lewis was recognized for his work in founding and operating the Mercy Clinic, a weekly clinic that provides medical services to those unable to afford them. The clinic is open Wednesday evenings and an estimated 70 patients receive treatment each week. Some 20 volunteers assist in staffing the clinic.

■ **May is National Mental Health Month. During the** month, mental health associations and other patient, family, and health care provider organizations nationwide will focus public outreach programs on prevention and early intervention for mental and substance abuse disorders. The American Psychiatric Association (APA) sponsors the event and offers free informational pamphlets to help the public understand these disorders and their treatments. For more information on specific activities in your area, contact the National Mental Health Association at 703-684-7722.

■ **National Anxiety Disorders Screening Day, May 1, will** be observed as part of National Mental Health Month. Psychiatrists and other mental health professionals across the country will offer free public screenings for anxiety disorders and information about the illnesses. "Anxiety disorders" refers to generalized anxiety disorder, phobias, panic disorders, post-traumatic stress disorder, and obsessive-compulsive disorder. Last year more than 30,000 individuals attended the programs at 1,200 sites, according to the APA. A telephone survey of 1,075 participants found that nearly half of those referred for further evaluation visited a clinician, and 72% of the referred participants were still in treatment three months later.

■ **The Chinese herbal medicine Black Pearl, usually sold** at health food or herbal medicine stores, has come under the scrutiny of the Louisiana State University (LSU) Medical Center in Shreveport. In their January newsletter *Tox Topics*, they report that Black Pearl, commonly called Chuifong Toukuwan, and recently a brand called "Cow's Head" Tung Shueh pills, are available in Texas and Louisiana. The Florida Department of Health banned the Taiwanese-made Cow's Head pills after finding that in addition to the herbal ingredients, the pills also contain the Western drug diazepam (Valium). LSU's own laboratory analyzed samples of Black Pearl from different sources and found a number of drugs, including phenylbutazone. Tests of Black Pearl from other labs have found, in addition to herbs, the following drugs: acetaminophen, aminopyrine, chlordiazepoxide, chlorzoxazone, dexamethasone, diazepam, corticosteroids, hydrochorthiazide, indomethacin, mefenamic acid, mercuric sulfide, methyltestosterone, prednisolone, and phenylbutazone. The majority of these agents are drugs available in the United States, but only with a physician's prescription. J

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JOURNAL

OKLAHOMA STATE MEDICAL ASSOCIATION

APRIL 1996 VOL 89, NO. 4

EDITORIAL
Paean to PLICO 125
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE
The Importance of Tradition—The Importance of Change 127
D.L. Harper, Tulsa

SCIENTIFIC
A Case of Unexplained Oxygen Desaturation During Laparoscopic Cholecystectomy 129
A. Amayem, J.S. Szafranski, B.S. Mansour; Oklahoma City

SPECIAL
Standard Clinical Protocols Are Important to Your Survival 131
W.H. Oehlert, Oklahoma City

COMMENTARY
Perverse Reactions to Pertussis Vaccine by Government Medical Agencies 135
S. Sepkowitz, Oklahoma City

The Human Genome Project and Social Consequences of Widespread Genetic Testing: What We Have to Learn from Breast Cancer 139
L. McCloy, Oklahoma City

NEWS
David Harper becomes president, 143... OSMA leaders go to Washington, 143... Sexual assault response team ends first year, 144... Resident garners AMA award, 145... Post-bombing services continue, 146... UCLA issues allergy guidelines, 148... Directory corrections a fact of life, 149

DEPARTMENTS
Health Department, 147... In Memoriam, 147... Deaths, 149... Classifieds, 149... Instructions for Authors, 156... Alliance, 157... The Last Word, 158

ABOUT THE COVER

David L. Harper, MD, Tulsa urologist, becomes the 91st president of OSMA this month. Story on page 143.

Art direction by Greg Gilpin, Graphic Arts Center, Oklahoma City.

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Paean to PLICO

Yearly, at policy renewal time, every physician must reassess the cost and value of the insurance that is to be renewed. And always, PLICO turns out to be far and away the best deal for Oklahoma physicians.

The reason for this has remained fairly stable over the sixteen years of PLICO's history. However, the perception and appreciation of OSMA member physicians has gradually waned over the years as new physicians replace those whose chaotic insurance experiences led to the formation of PLICO in 1979.

During the fifteen years 1965 to 1980, there was an explosion of medical malpractice and negligence claims all over the United States. The commercial casualty insurance companies were the principal liability insurers at the time, and mostly wrote malpractice policies as a sideline. They had very few, and inadequate, actuarial studies on medical liability, but they charged a premium to protect their profit during the litigation explosion. They cared little about medicine's intricacies and knew little of physician risk evaluation.

Consequently, U.S. physicians experienced more than a decade of erratic liability policy cancellations, and of premium doubling and tripling. Many malpractice liability companies quit business, leaving their policyholders in the lurch. There came to be time when the best physicians in the nation had no assurance that liability insurance could be had at any price at policy renewal time.

In that parlous insurance era, the OSMA advanced PLICO as a solution, and the members of the OSMA Insurance Committee formed the cadre for the first PLICO Board of Directors.

From the beginning, PLICO enlisted talented actuaries and legal advice, but the unique genius of this OSMA enterprise was the application of medical knowledge to the nuts and bolts of the insurance operation. Oklahoma physician learned the essentials of the insurance business and then applied their medical knowledge to the insurance tasks of underwriting, claims evaluation, and risk management. This special application of medical knowledge to insurance problems is the key factor that differentiates PLICO from nearly all competitors.

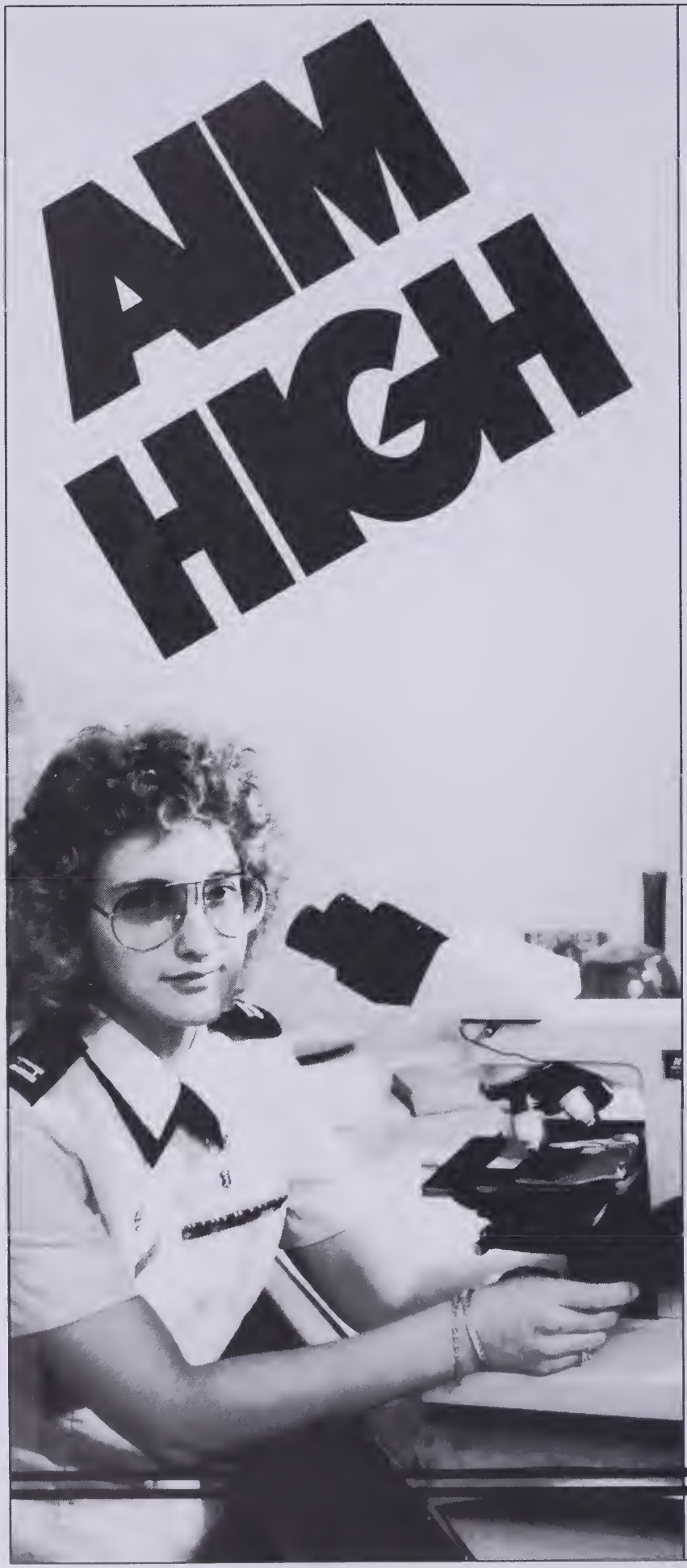
While insurance intricacies require enough study that new PLICO directors need some time to become sully functional, PLICO's periodic infusion of new directors has kept the company vigorous and keen and competently addressing today's problems.

PLICO has secured a place in the insurance business as a national leader for low premiums, breadth of coverage, rational claims management, and solid financial structure. PLICO's "occurrence" policy is worth many times the corresponding "claims made" policies offered by PLICO's competitors. The insurance expertise of OSMA physicians serving on the PLICO Board of Directors has made the difference.

Let us give a heartfelt "Thank You" to the OSMA physicians who have taken the time and trouble to learn the complexities of the insurance business, and thus to give us the opportunity to practice in the best liability climate in the entire United States.

Ray V. McIntyre, M.D.

PLICO's "occurrence" policy is worth many times the corresponding "claims made" policies offered by PLICO's competitors.



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AIR FORCE

PRESIDENT'S PAGE

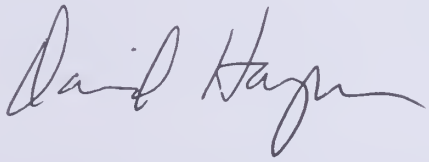
The Importance of Tradition— The Importance of Change

Our profession of medicine is rich in tradition, and, as a profession, we should strive to maintain those traditions which are most important. A good doctor-patient relationship must continue to be a hallmark in the practice of medicine, and we must continue to be our patients' best advocate. Collegiality and communication among physicians must not be lost in an era where many forces are dividing us. Managed care programs, separate hospitals, different insurance plans, different specialties, and separate practice locations can all be divisive. It is imperative that we make the Oklahoma State Medical Association and organized medicine a strong force of unity and not turn it into another divisive element.

Although we must maintain tradition, we also need to be adaptable to change. Medicine will never again be practiced in the same style as in the past; and just as technology changes, healthcare delivery systems change, and we must be pro-active to have input in these changes. We cannot afford to bury our heads in the sand and refuse to recognize the events that are in motion in our profession, and we should not give up and succumb to all proposed changes by legislative bodies and insurance companies without maintaining our input and working to preserve the important and outstanding medical traditions which have been the pillars of our profession.

Besides the constant changes affecting the practice of medicine, we of the Oklahoma State Medical Association are undergoing major changes in our organization in 1996. Two executives who have been with us for over 25 years are departing, and a new Chief Executive Officer will help lead us into the 21st century. Our support staff and personnel are undergoing a re-evaluation and re-definition of their duties and job descriptions, and there are continuing changes in our ongoing legislative efforts. The support of all our members will be very important during this time of transition.

While all change can be difficult, it also can afford a remarkable opportunity. We should all work together to update and re-structure the Oklahoma State Medical Association as we look forward to the next decade, but we must take care to preserve the traditions that have given us a solid foundation on which to build.



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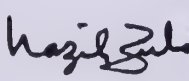

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A Case of Unexplained Oxygen Desaturation During Laparoscopic Cholecystectomy

Ahmed Amayem, MD; Jan S. Szafranski, MD; Badie S. Mansour, MD

The authors report a case of sudden desaturation upon creating pneumoperitoneum during laparoscopic cholecystectomy, which was most probably caused by endobronchial intubation.

The literature of the previously reported cases is reviewed. Differential diagnosis and different mechanisms are discussed. Recommendations are suggested to avoid this problem.

The performance of many surgical procedures by laparoscopic techniques has presented the anesthesiologist with a new series of potential hazards and complications. We describe a case of hypoxia occurring during laparoscopic cholecystectomy that highlights some of the difficulties facing the anesthesiologist during this procedure.

Case Report

A 31-year-old Hispanic female presented for laparoscopic cholecystectomy. She gave a history of upper abdominal pain with transient jaundice. Gall stones were confirmed by ultrasound. She had no previous surgical history and was otherwise healthy. She was 165 cm tall and weighed 73 kg; apart from some mild abdominal tenderness, clinical examination was unremarkable.

Anesthesia was induced uneventfully with propofol 150 mg, fentanyl 150 ug, and vecuronium 7 mg and maintained with isoflurane in oxygen and 70% nitrous oxide. The patient was intubated and ventilated with a minute volume of 7.0 l/min (tidal volume 700 ml, respiratory rate 10/min), peak inspiratory pressure of 25 mmHg, and end tidal CO_2 of 30 mmHg. Her pulse was 70/min, blood pressure 120/70, and pulse oximeter saturation 100%.

The standard laparoscopic cannulae were inserted by the surgeons. On insufflation with carbon dioxide intraperitoneally to a pressure of 20 mmHg, the patient's peak inspiratory pressure rose sharply to 50 mmHg and her oxygen saturation fell to 60%. Assessment of neuromuscular blockage showed no response to Train-of-Four stimulation. There was no change in heart rate or blood pressure. Her end tidal CO_2 rose slightly to 34 mmHg but there was no change in the shape of the capnograph. Chest movement appeared equal and breath sounds were bilaterally clear to auscultation in the apices. There was no evidence of subcutaneous emphysema. Manual ventilation with 100% oxygen was performed, and the surgeons were informed of her status. On release of the intraperitoneal pressure, her condition improved dramatically, with airway pressures returning to normal within seconds and saturation returning to 100%.

A second attempt was then made to insufflate the patient's abdomen. When intra-abdominal pressure reached 20 mmHg her airway pressure again increased to 50 mmHg and she began to desaturate. The intra-abdominal pressure was released and within seconds she became easy to ventilate and her oxygen saturation improved to 100%.

The procedure was then converted to an open

Intra-operative examination of the patient's abdomen by the surgeons revealed a normal diaphragm...

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cholecystectomy and completed without further complications. Intra-operative examination of the patient's abdomen by the surgeons revealed a normal diaphragm with no apparent evidence of hiatus or diaphragmatic hernia. Postoperative recovery was uneventful. A chest radiograph taken 30 minutes after extubation was normal.

Discussion

Improved laparoscopic techniques have revolutionized many surgical procedures. Although there is less trauma and pain, faster recovery, and possibly less mortality and morbidity, laparoscopy is not a benign procedure.

Laparoscopic cholecystectomy involves the creation of pneumoperitoneum by insufflation of gas under pressure into the abdominal cavity.[1] Intraoperative complication in a national survey of 77,604 cases[2] and included 10 pneumothorax cases, and 1 case of gas embolism. Jorgensen, in a series of 438 laparoscopic cholecystectomies, found two cases of pulmonary embolism and one deep vein thrombosis.[3] Pneumothorax was also reported by Hasel[1] and Opsomer.[4]

Our case did not present with change in blood pressure, which rules out air embolism and tension pneumothorax.

Possible causes of sudden hypoxia after insufflation of the abdomen might be:

1. Endobroncheal intubation. Cephalad movement of the diaphragm and mediastinum by raising intra-abdominal pressure might cause the tracheal tube to slide into the right main bronchus. This could be detected by auscultation of the chest revealing unequal breath sounds. Morimura et al have presented roentgenographic evidence of cephalic movement of the carina and decrease of the distance between the tip of the endotracheal tube and the carina from 15 mm to 8 mm after creating pneumoperitoneum during laparoscopic surgery. He recommended reassessing the endotracheal position after peritoneal insuflation.[5,6]

2. Bronchospasm. The carina could have been pushed against the tracheal tube, causing airway irritation and bronchospasm which would improve with repositioning of the tube and administration of a beta agonist.

3. Gas embolism. This would cause cardiovascular collapse and sudden decrease of the end tidal CO_2 ($ETCO_2$) or venous CO_2 embolism. Both have been reported in the operating room and in the immediate postoperative period and must be considered in the differential diagnosis of desaturation, cardiovascular collapse, and sudden decrease of $ETCO_2$.[7,8]

4. Development of pneumothorax through congenital defect in the diaphragm or congenital pleuroperitoneal defect.[9] Harrington discussed the most common sites of congenital hernia as being pleuroperitoneal hiatus (foramen of Bochdaleck), esophageal hiatus (foramen of Morgagni), and anterior substernal opening (Larrey's space).[10]

5. The passage of gas up through the falciform ligament, which might be perforated by the epigastric cannula during surgery. This ligament supports the liver on the underside of the diaphragm and its two layers divide superiorly to leave a bare area through which gas might theoretically enter the thorax."

Our case did not present with change in blood pressure, which rules out air embolism and tension pneumothorax. After exploring the abdomen, the surgeon ruled out any congenital defect in the diaphragm that could lead to pneumothorax. Since the change in oxygen saturation was dramatic, happened within a short period after abdominal insufflation, and was reversed spontaneously in a short period after deflation of the abdominal cavity, it can be explained by endotracheal tube displacement. Breath sounds heard by auscultating the left apex could be transmitted from the right side or vice versa. This could have been verified by fibro-optic bronchoscope, which was not available at the time of the incident.

We concluded that during laparoscopic cholecystectomy the anesthetist should always observe and document airway pressure changes, checking breath sounds and tracheal tube placement after abdominal insufflation.

References

1. Hazel R, Arora S, Hickey D. Intraoperative complications of laparoscopic cholecystectomy. *Can J Anesth* 1993;40:459-464.
2. Deziel D, Milikan K, Eonomou S et al. Complications of laparoscopic cholecystectomy. *Am J Surgery* 1993;165:9-14.
3. Jorgenson J, Hanel K, Lalak N et al. Thromhoembolic complications of laparoscopic cholecystectomy. *BMJ* 1993; 306: 518-519.
4. Opsomer O, Boven M, Pendeville P et al. Unilateral pneumothorax—an unexpected complication of laparoscopic cholecystectomy. *Can J Anesth* 1993; 40:1000-1006.
5. Morimura N, Inoue K, Miwa T. Chest roentgenogram demonstrates cephalad movement of the carina during laparoscopic cholecystectomy. *Anesthesiology* 1994;81:1301-1302.
6. Hamm P, Lang C, Fornecker ML et al. Recurrent selective bronchial intubation in laparoscopic cholecystectomy. *Ann Fr Anesth Reanim* 1993;12:67-69.
7. Marco A, Yeo C, Rock P. Anesthesia for a patient undergoing laparoscopic cholecystectomy. *Anesthesiology* 1990;73:1268-1270.
8. Clark C, Weeks D, Gusdon J. Venous carbon dioxide embolism during laparoscopy. *Anesth Analg* 1977;56:650-652.
9. Doctor N, Hussain Z. Bilateral pneumothorax associated with laparoscopy. *Anesthesiology* 1973;28:75-81.
10. Harrington S. The surgical treatment of the more common types of diaphragmatic hernia: esophageal hiatus, traumatic pleuroperitoneal hiatus, congenital absence of foramen of Morgagni. *Annals of Surgery* 1945;122:546-552.
11. Conacher I. Instrumental bronchial tears. *Anesthesiology* 1992; 47:589-590.

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The development and implementation of SCPs have allowed many health care providers to achieve specific outcomes in an efficient manner with greater satisfaction for patients and the health care team

Standard Clinical Protocols Are Important to Your Survival

W. H. Oehlert, MD

Standard clinical protocols will allow busy physicians to meet the increasing demands made on them to evaluate and perform, if appropriate, in a given manner for a particular problem. When tracked, standard clinical protocols allow the demonstration that the right thing was done every time at the right time and place.

To survive in the present and future health care delivery system, physicians must be able to document that they can give care in an appropriate and cost efficient manner. Physicians already have profiles and report cards prepared on them by the Health Care Financing Administration (HCFA)/Medicare, hospitals, and many of the insurance carriers. These profiles and report cards are generally prepared from administrative, not clinical, databases and contain a significant number of errors. Some physicians in Oklahoma have already run into problems with health care payers because of these errors and an inability to document their care. One system for documenting your quality of care and cost efficiency is the use of standard clinical protocols (SCPs).

Background

Standard clinical protocol (SCP) is an appropriate name for any series of care plans where specific treatments or outcomes are prescribed and are being monitored. The Health Care Quality Improvement Program (HCQIP) sponsored by HCFA is one such series. The current HCQIP list includes: ace inhibitors in diabetics with mild to moderate nephropathy, antimicrobial prophylaxis in elective surgeries, appropriateness of right heart catheterization with left heart catheterization, breast-conserving therapy for breast cancer, community-acquired pneumonia, cooperative cardiovascular project, early detection of breast cancer, endoscopy in the outpatient setting, evaluating carotid endarterectomy, evaluating RBC transfusion, evaluation of nuclear scans and treatment of pulmonary embolism, evaluation of readmissions for selected diagnoses, evaluation of transient ischemic attack, heparin use in patients with DVT, management of acute ischemic stroke, management of localized prostate cancer, prophylaxis against venous thromboembolism in surgical patients, stroke prophylaxis in patients with atrial fibrillation, use of ace inhibitors in CHF patients, use of International Normalized Ratio, use of thrombolytics in AMI patients, and utilization of YAG laser.[1]

These projects have been developed by HCFA with consultation from various physician organizations and "experts." Whether one agrees with the projects or not, physicians still have to deal with them. The present HCFA plan is to present the results of these projects while not identifying the attending physician. The HCQIP's mission is to promote the quality, effectiveness, efficiency, and economy of health services provided to Medicare beneficiaries. HCFA has defined five supporting goals:

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1. MEASURE quality of care using quality indicators,
2. IMPROVE quality of care, in areas where indicators identify opportunities, through cooperative quality improvement projects,
3. STRENGTHEN the community of those committed to improving quality,
4. COMMUNICATE information to help beneficiaries and providers make informed health choices, and
5. PROTECT beneficiaries from poor care.[2]

With these goals and the way provider information has eventually been released in other areas of the country, it is probably only a matter of time before physicians and other health care providers are specifically identified.

"By Any Other Name..."

SCPs go by a number of aliases including but not limited to the following: clinical paths, clinical pathways, clinical maps, critical paths, critical pathways, care tracks, collaborative care tracks, case management, care paths, care tracs, algorithms, bench marking, practice guideline, practice parameters, and organized systems of care. Different names have been used to highlight particular areas and methods or to create individuality.[3]

Development of SCP

The development and implementation of SCPs have allowed many health care providers to achieve specific outcomes in an efficient manner with greater satisfaction for patients and the health care team. These characteristics are attractive to an increasing number of physicians and hospitals that have to deal with health care payers, report cards, and economic credentialing. An increasing number of payers (employers, patients, and families) are asking about SCPs when negotiating with health care providers. The problems that receive the most benefit from SCPs are high volume, high cost, low reimbursement, high interest, high risk, and high predictability or especially problematic.

Physicians generally are not very well acquainted with the practice patterns of physicians with whom they do not share call, and there is a significant diversity in physician practice patterns. This diversity of care, with each physician considering his or her method the best, is a major challenge to the successful development of SCPs. The development and use of report cards for physicians and hospitals has increased the need to present one's self in the most favorable manner.

Standard Clinical Protocol Aliases
Clinical Paths
Clinical Pathways
Clinical Maps
Critical Paths
Critical Pathways
Care Tracks
Callabarative Care Tracks
Case Management
Care Paths
Care Tracs
Algarithms
Benchmarking
Practice Guidelines
Practice Parameters
Organized Systems of Care

Benefits of Using SCP

An SCP is a championed, multidisciplined integrated team approach to the care components and responsibilities of a patient's specific diagnosis or problem with a timeline format. SCPs seldom work for a DRG because of the broad nature of most DRGs. SCPs allow for the streamlining of care to ensure that essential components are provided on time, every time. There is a reduction in resource allocation with the right thing, at the right place, at the right time, and at the right price. Information is clustered in one location to improve communication among care-team members. The team has greater satisfaction, with more time for the patient, because of reduced documentation time by using variance tracking. Patients and families have increased knowledge of events with expectations defined up front. Patients tend to identify with similar fellow patients. The SCPs serve as a basis for continuous quality improvement and to meet regulatory requirements.

Guidelines

Guidelines are frequently used in conjunction with SCPs. Guidelines are "systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances." These statements of professionally appropriate care processes are derived

Standard Clinical Protocols Allow:
The Right Thing
The Right Place
The Right Time
The Right Price
Every Time

A **Standard Clinical Protocol** is a championed multidisciplined integrated team approach to the care components and responsibilities for a patient's specific diagnosis or problem with a timeline format.

Guidelines are "systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances."

from combinations of literature searches, empirical research, or a form of professional consensus.[4]

Refocusing to Add Quality

Outcomes traditionally considered have been clinical outcomes of mortality, morbidity, return to surgery, intensity of care, readmissions, and symptoms relief. With the changing of health care, malpractice, length of stay (special unit or hospital), economic credentialing, charges/costs, efficiency, patient satisfaction, return to work, resumption of recreational activities, and long-term results are gaining importance. With the increased health care cost consciousness and a shifting of the financial reward system from fee-for-service or discounted fee-for-service to some type of fixed reimbursement such as per diem, DRG, or capitation, the delivery of that care has been placed under a microscope. Not only *what* is done to or for a patient, but the *manner or location* in which that service/ procedure is provided and the *length of time* that a provider is responsible for the health care of a patient or group of patients become extremely important in what and how something is done for a given patient. New and better outcomes are generated by obtaining new knowledge and actively testing new approaches to a problem.

Creating an SCP

The development of an SCP starts with an identified problem. The problem may be identified by a physician, any other health care provider, hospital administration, or a payer. A multidisciplined team with a champion (usually a physician) and representatives from all areas that will be involved in the patient's care is assembled. The literature is searched for current recommendations. If practice patterns that have achieved the desired outcome can be identified, those patterns may be copied and used as a benchmark. With this background, an SCP is formulated and modified by "opinion leaders." Ideally, the protocol will be validated by a retrospective review of appropriate patients. After the review has shown the protocol to be acceptable, personnel are trained and the SCP is implemented on a pilot basis to check reliability. The results are analyzed for trends, patterns, and significant variances. These results are compared with other care methods for similar patients. The comparison results are disseminated. The SCP is modified where appropriate and implemented on a larger scale. The outcomes are repeatedly evaluated to see if they are achieving the desired goal(s), and the protocol is modified when appropriate to increase the efficiency or change an outcome. This method results in a uniform practice, but not a best practice. A best practice is derived by getting to the desired outcome with the most efficient use of resources.

Standard Clinical Protocols Target Problems With:
High Volume
High Cost
Low Reimbursement
High Interest
High Predictability
Problematic

Working Backwards

The components required to make the SCP successful are determined by the desired outcome. These components usually consist of written care plans/instructions for the clinical care providers and the patient/family, prehospital planning when needed, and early discharge planning for hospitalized patients. Prewritten orders and care plans give the care providers insight into what is generally planned. Computers allow SCPs and prewritten orders to be stored and used when needed. No SCP should ever be blindly followed, but rather, should be adapted to the specific needs of a given patient. At most, only 70% to 90% of patients with a given problem will fit a specific clinical path.

Variance

Variance is the deviation between planned interventions (such as medications, tests, activity, consults, nutrition evaluation, education, or discharge planning) and patient outcomes as stated on the time line of the SCP and what actually happens to the patient. The variance may be positive, negative, or neutral. Variances are analyzed with respect to whether the care providers (physician[s], staff), patient/family, the system,

At most, only 70% to 90% of patients with a given problem will fit a specific clinical path.

The use of SCPs in malpractice cases has been controversial.

equipment, or community contributed to the deviation. The staff can use variance charting to reduce paper work and speed up the documentation required for patient care.

Team Compliance

Critical to the issue of the successful implementation of SCPs is that these are not just nursing or administrative efforts to achieve an outcome, but an interdisciplinary effort. Due to the frequent difference in reimbursement between the physicians and hospitals, the pathways have to be written and implemented in such a manner that both win. If not, the paths will not be successful, because compliance will be undermined. Appropriate resources have to be allocated in order to achieve a successful protocol. Absolute consensus is not necessary prior to implementation of a path. In fact, it is usually better to start a pilot project with a limited number of patients and compare with other patterns of care. No protocol is a static process and each will be modified as needs and health care change.

SCP and Malpractice

The use of SCPs in malpractice cases has been controversial. The majority of attorneys that deal with medical malpractice have reported using guidelines or clinical paths in their practice. In the court room, more practice guidelines are used by the plaintiff's attorneys, but exculpatory guidelines induce attorneys not to bring suit.[5] The most frequent problem for physicians is deviating from a path without documenting the reason, and then having a bad outcome for whatever reason.

Problems, Problems, Problems

Common problems with SCP development and implementation include: lack of physician involvement, especially in the beginning; physician resistance; lack of multidisciplinary approach; lack of administrative-medical staff leadership; lack of education; failure to identify goals and roles of the protocols; unrealistic goals and time lines; ill-defined documentation requirements; inadequate variance reporting process; and not showing providers that the process improves care.

The Carrot

SCPs are successful because they can be a win/win situation for the patient, hospital, and physician. There is greater efficiency in the use of services and staff. Charting time can be reduced. Patients and family become more involved, better informed, and generally more committed. The satisfaction for everyone increases. There is a conceptual mind shift, with increased critical thinking and the promotion of judgment. Routines are automated, educational materials are developed, and outcomes are clarified.

SCPs are readily available from many sources. But because of the need for a mental transition by health care providers, the initial protocols should generally be developed locally. After the initial experience, additional protocols may be imported, modified when appropriate, and used locally. J

References

1. HCQIP: Current Project List, Oklahoma Foundation for Medical Quality, June 1, 1995.
2. Jencks SF. *The Medicare Health Care Quality Improvement Program: A Resource for Quality Improvement Efforts.* Health Standards and Quality Bureau, Health Care Financing Administration.
3. *Clinical Paths: Tools for Outcomes Management.* Spath PL, ed. American Hospital Publishing, Inc., 1994.
4. Hayward RS, Wilson MC, Tunis SR, Bass EB, Guyatt G. Users' guides to the medical literature: VII. How to use clinical practice guidelines; A. Are the recommendations valid? *JAMA.* 1995;274:570-574.
5. Hyams AL, Brandenburg JA, Lipsitz SR, Shapiro DW, Brennan TA. Practice guidelines and malpractice litigation: a two-way street. *Ann Intern Med.* 1995;122:450-455.

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Perverse Reactions to Pertussis Vaccine by Government Medical Agencies

Samuel Sepkowitz, MD

Pertussis vaccine has not been shown to cause permanent neurologic damage in children, according to the American Academy of Pediatrics and others. However, the federal government continues to maintain that, on rare occasions, permanent brain damage does occur. The report of a single case-control study in support of this position prompted the establishment of a special committee under the sponsorship of the United States Public Health Service, the Institute of Medicine, and the National Research Council to determine the validity of the report. The special committee concurred that pertussis vaccine does produce permanent brain damage in rare instances. Physicians are required to warn all responsible parties of vaccine recipients that pertussis vaccine may cause "lasting brain damage." This requirement has been authorized by Congress and the National Childhood Injury Act of 1986.

A single case-control study of putative neurologic reactions to pertussis vaccine was considered important enough by various government agencies to establish a Committee to Study New Research on Vaccines in order to review the study.[1,2] The committee was charged with evaluating the new information, and "if warranted, reevaluating the causal relation between DTP and chronic nervous system dysfunction." The U.S. Public Health Service requested the Institute of Medicine to assemble the committee. The project was approved by the National Research Council and the results were reviewed by a group other than the authors in accordance with government protocol. This was a case-control study that government agencies were waiting for.

The committee concluded there is now enough evidence to incriminate diphtheria-tetanus-pertussis (DTP) vaccine as a cause of chronic brain damage. Put more subtly, "the evidence is consistent with a causal relationship" between the vaccine and permanent brain damage. The new conclusion differs from a previous one by an Institute of Medicine committee report that stated there was insufficient evidence to indicate a causal relationship.[3] The Committee to Study New Research on Vaccines has called on the Committee to Review the Adverse Consequences of Pertussis and Rubella Vaccines to reexamine their previous conclusion. This new conclusion contrasts, moreover, with the statements of the American Academy of Pediatrics and others that DTP vaccine has not been shown to be a causative agent of permanent brain damage in children.[4-6]

Miller et al reached their conclusion—that DTP can cause permanent brain damage—on an inference...

National Childhood Encephalopathy Study (NCES)—1993

The new case-control, National Childhood Encephalopathy Study (NCES), that carries so much weight among government agencies rests on 12 injections given to patients found to have neurologic disorders when hospitalized within seven days after the injection and on six

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control patients who had DTP injections. Over 2 million injections of the vaccine were administered to children two months to three years of age during the three-year period of the study. As if these small numbers were not enough to question the validity of the report, the cases studied appear biased. Miller et al[1] stated that over 80% of cases were found ten years later for study; however, only 40% (12 of 30) ill infants who were hospitalized after an injection were reexamined and only 23% (6 of 23) of the control infants returned for follow-up studies.

Miller et al[1] reached their conclusion— that DTP can cause permanent brain damage— on an inference: children who received a DTP injection and who presented with a central nervous system illness were more likely to be hospitalized than other children. Controls were matched for sex, age, and place of birth only. Preferential hospitalization brought on by the fears of parents and their physicians were not considered by the committee. Errors in case ascertainment as a source of bias were not investigated. The committee relied on the assurances by Miller et al[1] that case ascertainment bias would not alter their overall conclusion.

The physicians in the study may have been blinded as to who received DTP vaccine, but the parents who decided to seek medical attention for their children were not.

Study of Neurologic Illness in Children (SONIC)—1993

Another case-control study of putative DTP vaccine reactions, this time of children either treated in a physician's office or in a hospital, was utilized by the committee to affirm earlier claims by the Committee to Review the Adverse Consequences of Pertussis and Rubella Vaccines that the vaccine can cause acute brain damage in children. They found the odds ratios reported by Gale et al[7] to have added a consistency to the previous assertion that the evidence is consistent with a causal relationship between DTP and acute encephalopathy.

Gale et al supported the view that the DTP vaccinations can result in serious acute neurologic reactions. Causality "cannot be dismissed with absolute certainty."[7]

To support this absolutism they resorted to relativism: a case-control study with accompanying odds ratios, all of which included unity. They considered their study to be population-based. Rather, it was a study of patients who went to a physician or a hospital from a defined population. These patients were not randomized; they were self-selected from a pool of patients. Less than one-third of the complex febrile seizures that would have been expected to occur in this population were entered into the study.[8] These seizures accounted for 44% of the incident cases.

The physicians in the study may have been blinded as to who received DTP vaccine, but the parents who decided to seek medical attention for their children were not. Many had been taught to seek medical help for a litany of reactions that might lead to brain damage from DTP vaccine. By 1987-1988, parents had been barraged for a decade with information that a child risks brain damage from DTP vaccine. Years of exposure to media stories about the dangers of the vaccine primed them for this study. Additionally, in 1987-1988, parents were being given a form to read and sign, often compulsorily, that listed possible reactions and what to do if one or more of these occurred.[9] Such warnings and instructions were unprecedented in pediatrics. No other ordinary office or clinic procedure has required forms to be read and signed as informed consent before an injection. Parents were informed by these instructions to report reactions and sicknesses in the four weeks following an injection. Moreover, as these instructed parents were more likely to maintain records of vaccine administration, a requisite for entry into the study, the children of these parents would be more likely to be entered into the study. Reliable vaccine information was available for 75.8% of case children and for 50.4% of control children.

Statistical Over Observational Epidemiology

Hospitals and physicians' offices are no place to study the overall incidence of well publicized, reputed reactions to vaccines such as death and chronic brain damage. It is a fallacy to infer that selection bias does not exist simply because controls have been matched by age, sex, and place of residence. Fear needs to be considered, too, as well as the ever-present promise of what a malpractice settlement might bring. Patients and parents who have been told, and told repeatedly, by the media and by the government that brain damage or death may result from a medication do not appear stochastically at hospitals or doctors' offices.

If there has been consistency in the odds ratios reported in case-control studies, there has also been consistency in the observational data of these studies. No one has found a case of brain damage or death specifically identified

as due to the DTP vaccine. Miller et al[1] have now followed over 2,000,000 DTP injections for ten years and they have yet to find a life-threatening reaction that is unique to the vaccine. Gale et al[7] followed 368,000 injections without describing any unique reactions. Griffin et al[10] followed up on 107,154 injections and identified no encephalopathies, nor did Walker et al who followed 106,000 injections.[11] Pollock et al[12] studied over 400,000 injections and found no clinical syndrome associated with the vaccine. The *Physicians Desk Reference* lists few drugs or biologicals, if any, that have been so well monitored for so long. Killed vaccines can never be considered absolutely risk-free, but, that said, DTP vaccine has not been found to cause acute or chronic brain damage or death either by statistical or by observational epidemiology, interpretations of case-control studies by government committees notwithstanding.

The National Childhood Vaccine Injury Act of 1986 in 1995

Safety standards are different for DTP vaccine—the vaccine is a special case. DTP vaccine has legitimated adversaries who have been positioned to influence decisions about vaccines. The National Childhood Vaccine Injury Act of 1986 (P.L. 99-660) was written in a way that permitted activist groups who felt their children were damaged by vaccines to dominate the Advisory Commission on Childhood Vaccines. Legal representatives and other lawyers form a majority of the committee, and they pass on their recommendations to a director who reports annually to the Energy and Commerce Committee of the House of Representatives and to the Committee on Labor and Human Resources in the Senate.

Activist groups appear well positioned in the television industry as well. Two television programs capitalizing on the reputed dangers of DTP vaccine have appeared in this country almost simultaneously with the Committee to Study New Research on Vaccines' report.[13] In England, a television documentary on brain damage and the vaccine appeared 11 days after publication of the new report by Miller et al.[1] This program was reviewed by Miller[14] in the *British Medical Journal* ten days after it was shown on television.

Worst of all, government medical agencies under the authority of the National Childhood Vaccine Injury Act of 1986 are obliterating the peer review process, a foundation of scientific medicine. There has not even been a pretense of ecumenical peer review. The Committee to Study New Research on Vaccines held one open session that was "open to observation by invited members of the U.S. Public Health Service and representatives of advocacy groups." In time, these cloistered committee deliberations among government committees about vaccine reactions can be entered into the *Federal Register* and then be fashioned into law. By law, physicians will be required to distribute what has been decided by these committees and by Congress to be the "truth" about vaccine reactions. This is a glimpse of top-down medicine, authoritative medicine, political power medicine. It is not how science works.[15]

Benefits of the legislation still remain controversial. According to Rabinovich and Robbins[16] of the National Vaccine Program, the law has stabilized vaccine production, the number of lawsuits against DTP manufacturers has declined, and the price increases of the vaccine have been interrupted; they have even decreased somewhat. On the other hand, Kitch and Mortimer[17] have noted that the vast majority of the vaccine injury awards have no scientific bases. A vaccine that once cost $0.10 per injection continues to sell for about $12.00 per injection, due presumably to the projected costs of litigation. Given the years after an injection that a lawsuit may be filed, it is premature to conclude that litigation has been or will be curtailed—"the cases, however, have not disappeared. They are in slow motion suspension from which they can emerge at any moment."[17]

No controversy exists about who is now the medical arbiter for childhood immunizations and their reactions. The Childhood Immunization Act gave Congress the power to determine what defines a vaccine reaction, what gets publicized as a reaction, and what reactions may be litigated. For anyone interested in vaccine reactions, the *Federal Register* has become required reading. Ominously, Congress has also acquired the power to determine what vaccine reactions do not get publicized, if Congress so chooses to have a favored vaccine promoted.

The Childhood Immunization Act gave Congress the power to determine what defines a vaccine reaction...

Addendum

The *Federal Register* [59 FR 31888], p. 31889, July 20, 1994, has reported a "New Vaccine Information Materials; Notice." There are nine adverse reactions to DTP vaccines listed, including as a severe reaction:

"...decreased consciousness and coma. Some of

these children may have lasting brain damage. There is disagreement about whether or not DTP causes the lasting brain damage. If it does, it is very rare."

All health care providers under Section 2126 of the Public Health Service Act (42 U.S.C. Sect. 300aa-26), effective October 1, 1994, must provide this information to a legal representative of any child before administering the vaccine.

References

1. Miller DL, Madge N, Diamond J et al. Pertussis immunization and serious acute neurological illnesses in children. *BMJ* 1993; 307: 1171-1176.
2. Stratton KR, Howe CJ, Johnston RB Jr. *DTP Vaccine and Chronic Nervous System Dysfunction: A New Analysis.* Institute of Medicine. Washington, DC, National Academy Press; 1994
3. Howson CP, Howe CJ, Fineberg H. *Adverse Effects of Pertussis and Rubella Vaccines.* Institute of Medicine. Washington, DC, National Academy Press; 1991.
4. Committee on Infectious Diseases: The relationship between pertussis vaccine and brain damage: reassessment. *Pediatrics* 1991;88:397-399.
5. Golden GS. Pertussis vaccine and injury to the brain. *J Pediatr* 1990;116:854 -861.
6. Feigin RD, Cherry JD. Pertussis. *Textbook of Pediatric Infectious Diseases.* Feigin RD, Cherry JD, Philadelphia, WB Saunders 1993: pp1211-1217.
7. Gale JL, Thapa PB, Wassilak SGF, et al. Risk of serious acute neurological illness after immunization with diphtheria-tetanus-pertussis vaccine. A population-based case-control study. *JAMA* 1994;271:37-41.
8. Verity CM, Butler NR, Golding J. Febrile convulsions in a national cohort followed up from birth. I-prevalence and recurrence in the first five years of life. *BMJ* 1985;290:1307-1310.
9. Report of the Committee on Infectious Diseases 20th ed. Elk Grove Village, Ill: American Academy of Pediatrics: 1986.
10. Griffin MR, Ray WA, Schaffner W et al. Risk of seizures and encephalopathy after immunization with diphtheria-tetanus-pertussis vaccine. *JAMA* 1990;263:1641-1645.
11. Walker AM, Jick H, Perera DR, Knauss TA, et al. Neurologic events following diphtherla-tetanus-pertussis immunization. *Pediatrics* 1988;81:345-349.
12. Pollock TM, Morris J. A 7-year survey of disorders attributed to vaccination in Northwest Thames Region. *Lancet* 1983,1:753-757.
13. American Academy of Pediatrics. *AAP News* 1994:10-N04.
14. Miller D. Channel 4 Dispatches. "The Batches in Question." 17 November. Pertussis vaccine under scrutiny. *BMJ* 1993;307:1430.
15. Charlton BG. Management of science. *Lancet* 1993;342:99-100.
16. Rabinovich R, Robbins A. Pertussls vaccines A progress report. *JAMA* 1994;271:69-71.
17. Kitch EW, Mortimer EA Jr. *The National Vaccine Injury Compensation Program Vaccines.* Plotkln SA, Mortimer EA Jr., Philadelphia WB Saunders, 2nd ed.1994.

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The Human Genome Project and Social Consequences of Widespread Genetic Testing: What We Have to Learn from Breast Cancer

Laura McCloy, MS II

Simply put, the aim of the Human Genome Project is to discover how nucleic acids line up to create a physically and intellectually complete person. Scientists working on the project hope to discover the chemical code responsible for making the proteins that create the tissues that give us arms, eyes, hearts, and brains. Knowledge of the shape and function of the human body will, in turn, allow us to better understand, and perhaps manipulate, misshape, and dysfunction.

In theory, the intent of the Human Genome Project sounds straightforward, if not innocuous, while the purpose seems ambitious, if not noble. But just as a statement of purpose cannot convey the experience of scientists working on the project—innumerable hours, painstaking experiments, tenuous results, and chronic frustration—nothing said or written can completely prepare physicians for the impact that the information to be gained from the Human Genome Project will have on the practice of medicine.

While the ultimate contribution of the mapping project may be to offer genetic cures for genetic diseases, the current reality of genetic testing is that disease-related genes are localized but with no means of replacing bad genes with good ones. Within the next 10 to 20 years scientists will perhaps find a means to extricate a "disease gene" and replace it with a healthy one, but until then physicians will be faced with informing patients of a predisposition for a disease that has few, if any, therapeutic options. While the ability to predict disease has inherent value, it also carries with it emotionally charged personal, legal, and ethical issues that must be addressed by physicians.

Some of these issues are currently being considered by physicians and scientists performing linkage studies on BRCA-1, a gene which, when mutated, is highly linked with the presence of breast cancer.[1-4,6] Of the 5% to 10% of breast cancer patients who have the hereditary breast cancer syndrome, 85% will harbor a BRCA-1 or BRCA-2 genetic mutation.[4] BRCA-2 is a second breast cancer gene that reportedly was sequenced in late 1995. For the past few years, researchers at a handful of select institutions have performed linkage studies for BRCA-1 in families that appear to have the hereditary breast cancer syndrome. The recent sequencing of the gene, however, opens the door for widespread testing by primary care physicians during routine office visits. Indeed, a genetic test is being developed and is expected to be available for use by the end of 1996.

The ability to easily perform testing for BRCA-1 presents this as a prototypic case, capable of guiding physicians in how they handle the many social and personal issues involved with genetic testing. Although extensive testing for other genetic diseases does exist, genetic screening for breast cancer differs from other forms of genetic testing in two fundamental ways. First, it is one of the few genetic tests that predicts the development of disease in

Laws will need to specify what right, if any, insurance companies and employers have to information about a person's genetic composition.

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adults and second, breast cancer patients, unlike those with most other genetic diseases, have therapeutic options.

Physicians who perform genetic tests for BRCA-1 mutations will need to understand the impact that a positive test has on a patient. When a woman learns that she carries a high risk for developing breast cancer at some unknown point in the future, she is likely to have a strong emotional reaction, as well as many questions about what it means for her life and for the lives of her children, especially her daughters. Doctors will need to be prepared to provide emotional support, to explain genetic probabilities, and to outline the less-than-attractive options for treatment, such as bilateral mastectomy and/or oophorectomy. Ethical and legal guidelines will need to be established so that physicians follow a standard procedure in dealing with confidentiality and decision-making issues. In addition, laws will need to specify what right, if any, insurance companies and employers have to information about a person's genetic composition.

It is conceivable that insurance companies and employers will *require* genetic testing as part of their screening physical exam.

Most of these issues have been addressed, at least in part, by researchers performing linkage studies for BRCA-1 mutations. A group from the Human Genome Center at the University of Michigan has established a protocol for genetic counseling and suggested ethical and legal ideals for the linkage studies. They suggest that presymptomatic testing for BRCA-1 gene mutations include (1) pre-counseling education and assessment, (2) a multidisciplinary team with expertise in the screening and management of breast cancer, inheritance, DNA testing, and psychosocial counseling issues of late-onset disorders, and (3) follow-up services to manage the increased risk for cancer as well as the residual emotional reactions of family members. They also recommend that patient confidentiality be protected and that attention be given to the social implications of genetic testing information such as potential loss of insurance, stigmatization, and employer discrimination. The authors admit, however, that their guidelines apply to linkage studies, and that once the clinical test for BRCA-1 becomes available, counseling, social, and economic concerns will take on much larger proportions.[1]

Once testing is widely available, many more people will be tested for BRCA-1 mutations. This decreases the likelihood of in-depth genetic counseling by a large team of professionals, and in so doing, opens up the margin for misunderstanding among patients who are tested. Women who test negative may believe they are at no risk for breast cancer, when, in reality, most will still carry at least the 1 in 10 risk that all females carry. The possibility of false-positives and false-negatives also complicates the situation.

In addition, those who test positive may not be fully prepared to deal with the information and may have reactions ranging from severe depression to the belief that they need unwarranted, overly aggressive treatment. The responsibility of educating patients will fall on medical professionals, and this points to the need for community physicians and members of their office staffs to become well-versed in medical genetics and in the treatment of genetic diseases.

While most of us value the ideals of privacy, autonomy, and nondiscrimination, we also realize that not all employers, nor all health insurance companies, elevate ideals over income. The BRCA-1 linkage studies currently being done can be kept secret, as they are classified as "research" and filed separately from the rest of the patient's chart. In all probability, however, results of broad-based clinical testing will be kept with the rest of the patient's chart, giving employers and insurance companies access to the information. It is also conceivable that insurance companies and employers will *require* genetic testing as part of their screening physical exam. Insurers currently use demographic information to predict disease patterns in hopes of drawing pools of healthy people to insure. It is almost ironic that genetic testing will give them the information they want with more accuracy and with a lower chance of taking on a high-risk person. Because protecting genetic information will probably be very difficult, the way to preserve the employability and insurability of people at risk for genetic diseases may be to enact laws that do not allow companies to discriminate against individuals based on genetic information. Such laws would be established only after such discrimination occurs, when a patient sues and the case goes to court.

Speculation and identification of possibilities and probabilities is beneficial in the case of presymptomatic testing for disease-related genes because it prepares physicians for the questions and issues they will face when widespread genetic testing becomes available. Doc-

tors must prepare themselves to deal with the personal, ethical, and legal issues involved in this new area of information.

Preparation is especially valuable in the case of BRCA-1 because screening for BRCA-1 mutations is likely to be the first widely used presymptomatic genetic test available in general medical practice, and will thus guide the way for genetic testing in the future. Regardless of whether the BRCA-1 effort is successful, however, more genetic tests seem promised for the future, as the Human Genome Project will march forward in its quest for information, trying to elucidate what makes us human. J

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References

1. Biesecker B, Boehnke M, Calzone K, Markel D, Garber J, Collins F, Weber B. Genetic counseling for families with inherited susceptibility to breast and ovarian cancer. *Journal of the American Medical Association*. 1993; 269:15; 1970-1974.
2. Bishop DT. BRCA-1, BRCA-2, BRCA-3 . . . a myriad of breast cancer genes. *European Journal of Cancer*. 1994; 30;12; 1738-1739.
3. Cowley G. Family matters. *Newsweek*. Dec. 6, 1993.
4. Hoskins K, Stopfer J, Calzone K, Merajver S, Rebbeck T, Garber J, Weber B. Assessment and counseling for women with a family history of breast cancer . . . a guide for clinicians. *Journal of the American Medical Association*. 1995; 273:7; 577-585.
5. Kevles D, Hood L. *The Code of Codes: Scientific and Social Issues in the Human Genome Project*. Cambridge, MA: Harvard University Press, 1992.
6. King MC, Rowell S, Love S. Inherited breast and ovarian cancer . . . what are the risks? What are the choices? *Journal of the American Medical Association*. 1993; 269:15;1975-1980.
7. President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. *Screening and Counseling for Genetic Conditions: A Report on the Ethical, Social, and Legal Implications of Genetic Screening, Counseling, and Education Programs*. Washington, D.C.: The Commission, 1983.
8. Proceedings of a conference sponsored by the School of Social Work and Community Planning, University of Maryland at Baltimore, with support from the U.S. Department of Health and Human Services, Health Resources and Services Administration, Division of Maternal and Child Health Genetic Diseases Services Branch. *Educating for Practice in a Changing World: Implications of the Genetics Revolution*. Rauch JB, ed. Baltimore, MD: School of Social Work and Community Planning, 1984.

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Schedule of Business Events for 90th Annual Meeting

The 90th Annual Meeting of the Oklahoma State Medical Association House of Delegates will be held April 26-28, 1996, at the Southern Hills Marriott in Tulsa. The OSMA Board of Trustees will meet on Thursday, April 25. The meeting is open to all OSMA members and attendance is encouraged at this, the OSMA's largest annual gathering.

The luncheon on Friday promises to be informative, with the OSMA planning to demonstrate its new on-line communication system. This new service will offer physicians the chance to browse the Internet and will provide yet another line of communication among OSMA members.

This year's OSMA/OSMAA Presidents' Reception and Banquet will honor President Larry L. Long, MD, and President-Elect David L. Harper, MD, as well as OSMAA President "K" Caldwell and President-Elect Barbara Jett.

OSMA members will receive ticket order forms in the mail and are urged to order prior to the meeting. Enclosed in the same mailing will be a hotel registration form for members' convenience in making reservations directly with the Southern Hills Marriott.

For OU College of Medicine Alumni events, call Carol Modisette at 405-271-3500.

The following is a tentative schedule of events:

Thursday, April 25, 1996

10:00 AM	Registration
11:00 AM	OSMA Executive Committee
1:30 PM	OSMA Board of Trustees

Friday, April 26, 1996

6:00 AM	Hospitality
7:00 AM	Registration
7:30 AM	OSMA Organized Medical Staff Section Breakfast
7:30 AM	Oklahoma County Medical Society Caucus
7:30 AM	Tulsa County Medical Society Caucus
7:30 AM	Rural County Medical Societies Caucus
9:00 AM	OSMA House of Delegates Opening Session
Noon	OSMA Luncheon (Internet presentation)
1:30 PM	OSMA Candidates Forum
2:30 PM	OSMA Reference Committees I, II, and III

Saturday, April 27, 1996

6:00 AM	Hospitality
7:00 AM	Registration
7:30 AM	OSMA Council on Rural Health Breakfast
8:00 AM	PLICO Loss Prevention Seminar
8:00 AM	OSMA Past, County Society, and Specialty Society Presidents' Breakfast
9:00 AM	Open Forum to Discuss the AMA Federation Study
9:00 AM	OMPAC Meeting
10:00 AM	OSMA Council on Governmental Activities
6:00 PM	OSMA/OSMAA Presidents' Reception
7:00 PM	OSMA/OSMAA Presidents' Inaugural Banquet (black tie optional)

Sunday, April 28, 1996

6:00 AM	Hospitality
7:00 AM	Registration
7-9 AM	Voting
7:30 AM	Oklahoma County Medical Society Caucus
7:30 AM	Tulsa County Medical Society Caucus
7:30 AM	Rural County Medical Societies Caucus
9:00 AM	OSMA House of Delegates Closing Session
11:30 AM	PLICO Forum (immediately following OSMA House of Delegates)
11:30 AM	AMA Delegation Caucus and Lunch (immediately following OSMA House of Delegates)

David Harper to become 91st OSMA president on April 27

David L. Harper, MD, a urologist from Tulsa, will assume the presidency of the Oklahoma State Medical Association on Saturday, April 27.

Dr. David L. Harper

The Inaugural Reception and Dinner will be held at the Southern Hills Marriott in Tulsa during the Annual Meeting of the OSMA House of Delegates. Dr. Harper will succeed Oklahoma City surgeon Larry L. Long, MD.

A native of Little Rock, Ark., Dr. Harper was named to Phi Beta Kappa as an undergraduate at the University of Arkansas. He earned his medical degree in 1971 at the University of Arkansas College of Medicine, where he was a member of Alpha Omega Alpha. Dr. Harper completed an internship at St. John Medical Center in Tulsa before entering the U.S. Navy for a two-year stint as a general medical officer. In 1974 he completed a residency in general surgery at the University of Oklahoma College of Medicine in Tulsa (OUCMT). He then returned to Little Rock, where he completed a residency in urology at the University of Arkansas in 1978.

The same year he moved back to Tulsa to take a position as a clinical instructor in urology at OUCMT. In 1983 he became clinical assistant professor, and in 1991, clinical associate professor.

Dr. Harper is deeply involved in organized medicine at both the county and state level. He was secretary-treasurer of Tulsa County Medical Society (TCMS) for 1987-88, and a member of their Board of Directors from 1987 to 1994. He also has chaired several TCMS committees, including the Ethics Committee in 1991, Scholarship Fund in 1992, Nominating Committee in 1993, and Committee on Health Care Reform in 1993 and 1994. In 1990 he was chairman of the TCMS Council on Community Relations and in 1992, chairman of the TCMS Community Development Trust Fund. From 1992 to 1995 he was on the Board of Directors of the Utica Physicians Association Limited (UPAL)

At the state level, Dr. Harper served as a delegate to OSMA from 1989 to 1994, an alternate on the OSMA Board of Trustees from 1992 to 1994, and vice-president in 1994. The following year he was named OSMA president-elect.

Dr. Harper and his wife, Jane Ann, have two children, Ryan and Jonathan.

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OSMA leaders trek to Washington for conference and delegation talks

Four of OSMA's political activists were in Washington, D.C., last month for the AMA's National Leadership Conference. While there, OSMA President-Elect David L. Harper, MD; Oklahoma County Medical Society President John R. Bozalis, MD; Tulsa County Medical Society President-Elect Michael B. Clendenin, MD; and Richard J. Boatsman, MD, chair of the OSMA Council on Governmental Activities sought out and visited members of Oklahoma's Congressional delegation. Among those meeting personally with the doctors were Senator Don Nickles; Senator Jim Inhofe; Rep. Steve Largent; Rep. Bill Brewster; Rep. Frank Lucas; Rep. Tom Coburn, MD; Rebecca McCarthy, health aide to Rep. Ernest Istook; and Jack Horner, health aide to Rep. J.C. Watts. At the AMA's request, all were asked to support the Senate's Kennedy-Kassebaum health insurance reform bill, S.1028. The measure essentially calls for portability of health insurance and ends discrimination against those with pre-existing conditions. House members were asked to co-sponsor Rep. Coburn's bill that would provide that managed care organizations offer point-of-service options to patients.

Dr. Bozalis also met with members of the U.S. House of Representatives Ways and Means Committee staff to discuss an issue that could be of importance to Oklahoma physicians. An allergist, Dr. Bozalis is president of the Oklahoma Allergy and Asthma Clinic. On December 31, 1995, the Internal Revenue Service informed the clinic that it had to change from a cash to an accrual method of accounting, which means the clinic would have to pay taxes on accounts receivable rather than cash on hand. The clinic has protested the IRS recommendation and has initiated proceedings in tax court.

Any physician offices or clinics that have been contacted

(continued)

Leadership conference *(continued)*

by the IRS about accrual accounting are urged to contact Mike Sulzycki of the OSMA staff.

Meanwhile, at the Leadership Conference, Tulsa's Michael J. Haugh, MD, past chair of the OSMA Board of Trustees and Oklahoma AMA Delegation, was praised by D. Ted Lewers, MD, chair of the AMA Board of Trustees, as a physician who stood up for his patient despite threats by an HMO. When an Oklahoma HMO refused to authorize a test recommended by Dr. Haugh for one of his patients, but suggested a more invasive procedure, he informed the patient and said he still considered the first test to be appropriate and less risky. Dr. Haugh then received a letter from the HMO medical director stating that he felt "your letter to a member to be significantly inflammatory. You should be aware that a persistent pattern of pitting the HMO against its member may place your relationship with the HMO in jeopardy." A letter from AMA Executive Vice President P. John Seward, MD, in support of Dr. Haugh was sent to the HMO medical director with copies to the insurance company's medical director and Jerry R. Nida, MD, Oklahoma Commissioner of Health. J

OUHSC-based sexual assault response team ends first year

University Hospital is home to precedent-setting program

In America today, a sexual assault occurs every nine minutes, and a ground breaking organization dedicated to combating sexual assault and easing the trauma to victims will soon celebrate one year of service.

Central Oklahoma Clinical Forensic Consultants, Inc., a non-profit organization, has based its Sexual Assault Nurse Examiner Program (SANE) at University Hospital (UH) in Oklahoma City since last June. UH donated an examination room and a waiting room to the program, which serves Oklahoma County.

"The hospital has donated the space and that has been a tremendous asset," said Dr. Janet Rodgers, medical director of the program and a physician in the UH Emergency Department. "Being at the hospital, we don't have the problems of security or proximity to medical care that we would have if we were based elsewhere."

The program was started in part because of an outcry from the community to provide better services to the victims of violent crime. There was confusion as to where rape victims should go for examinations. They might present to any hospital in Oklahoma County and have to wait for hours, only to find that the physician on duty was reluctant to do the exam, and then be sent to UH for the exam. Once at UH, they again had to wait for their exam while more critical patients were given priority. Prior to the founding of this program, there was an average six-hour wait from the time the victim checked in to when the exam began.

While they waited, rape victims were asked not to eat, drink, smoke, void, clean up, or change clothes until their exam could be done. They had to wait with a police officer in a public area. The victim continued to be victimized by the wait and, with time, potentially valuable evidence was lost.

> The program is geared toward getting the victims out of that public setting in the emergency room and making sure they don't have to wait for hours.

At UH, the examination was performed by either an emergency medicine or ob/gyn resident—with varied education in signs of gynecological trauma as related to sexual assault. In addition, advocacy programs—which respond to the psychological needs of the victim—sometimes received delayed notification due to lack of experience or changes in staffing.

"We provide the victims of sexual assault the most caring, efficient, cost effective, and comprehensive forensic examinations possible," said Bob Williamson, RN, program co-director.

Williamson, who started the program with Rusty Rooms, a paramedic forensic specialist, is also a registered nurse in the UH Emergency Department. He believes that the fledgling program has already made tremendous strides in preventing rape victims from feeling "revictimized" by the forensic investigation of the rape.

"I've never seen anyone in my experience—prior to the program—return to express thanks. We've had calls from parents of victims," Williamson said. "Victims have even visited to express thanks."

It's important to note that after a rape, if the victim is not otherwise physically injured, he or she is given a forensic examination to collect specimens to represent scientific evidence in a court of law. "It's not meant to be a medical exam—it's the collection of forensic evidence," Dr. Rodgers said. If the victim complains of injury, a medical screening is done before the exam and proper medical treatment obtained for the victim.

The program's benefits are multifold. One is to ensure that a victim is put through as little trauma as possible during the examination after a rape. Waiting for hours in a hospital waiting room to experience an in-depth examination that many victims find embarrassing led many past rape victims to either "give up" and leave the emergency room or to never report the rape in the first place.

"In my 20 years of experience as an emergency physician, I would see victims come into the emergency department—already very upset—get more

(continued)

Sexual assault *(continued)*

upset, then leave," Dr. Rodgers said. "They would continue to be victimized."

However, with the program in place, when a victim enters the emergency room or contacts police, a call is made to the Sexual Assault Response Team (SART) 24-hour hotline. Within 45 minutes, a victim advocate and nurse examiner will arrive at the hospital to begin the examination.

"The program is geared toward getting the victim out of that public setting in the emergency room and to make sure they don't have to wait for hours," Williamson said.

After the examination, the rape survivor is given a change of clothing—the clothing worn during the attack becomes evidence—and a private place to shower and clean up.

The speed and efficiency of the program also saves the police officer time. Previously, an officer spent an average of almost seven hours dealing with a rape case. The SART program saves that officer about three hours, which means that officer is back on patrol sooner.

SART added a formidable tool to its rape examination kit with the addition of a video colposcope last November. This device provides actual photos that accurately document unequivocal evidence for the prosecution. Many cases will result in convictions without even going to court because of the evidence that is now provided—another instance of saving taxpayer dollars. Iodine fuming, a technique that allows the lifting of fingerprints from the victim's skin, is also on the horizon for SART.

Yet another program benefit is that the information discovered during the examination is keyed into a computer. The computer program, created by Rooms, decreases the amount of time during the examination process and prevents mistakes in facts and interpretation.

The computerized data system also provides accurate statistical information for reporting and tracking serial rapists. "We know that the ability to track that kind of evidence is better now," Rooms said. "We can compare and contrast every case we do—something that nobody has had the ability to do."

Tulsa will be on-line with Oklahoma City soon, creating a strong networked database available to both cities' police departments. "The tools are in place to make this information readily available to law enforcement, the Department of Human Services, and advocacy programs," Rooms added.

Perhaps the greatest tool for the SART team is their training. Forensic nurses have the advanced education in forensic evidence collection, as well as a strict quality assurance program for the medical needs of the case. They go through 40 hours of training in Tulsa. After that training, they perform numerous pelvic examinations under the guidance of a physician. They then take the certification examination. After passing certification, they perform two precepted forensic examinations and are certified through Clinical Forensic Consultants. To maintain their certification they must complete eight hours of continuing education. This can be done with a forensic laboratory, sex crimes unit, district attorney's office, or through an ob/gyn rotation.

Forensic nurses have assisted the Tulsa district attorney as expert witnesses with three rape convictions since January. Currently, forensic nurses in Oklahoma City are seen as evidentiary witnesses.

Another important aspect of the program is that SART staffers are unpaid. According to Williamson and Rooms, their average cost for each examination is about $300. The Oklahoma Victims Compensation Fund pays $175 per case—leaving a deficit.

"We have had some help from OG&E and the United Way," Williamson said. "We're looking for as much community assistance as possible."

(continued)

Resident garners AMA award

William D. Jones IV, MD, Oklahoma City, is one of 40 resident physicians honored by the AMA/Glaxo Wellcome Inc. Leadership Award Program for their community service. Currently Dr. Jones is in the University of Oklahoma Division of Occupational Medicine.

Dr. William D. Jones

The AMA established the Leadership Program in 1988 with a grant from pharmaceutical manufacturer Burroughs Wellcome Co. (now Glaxo Wellcome Inc.). Honorees from across the U.S. attended the AMA Resident Physicians Section Interim Meeting in December in Washington, D.C. Dr. Jones also will have the opportunity to attend the AMA Annual Meeting in Chicago in June. The Leadership Program is designed to build ties between organized medicine and resident physicians who have displayed a commitment to community service.

For nearly two years, Dr. Jones has served as a physician at a free health clinic in Oklahoma City which is devoted to the prevention, diagnosis, and treatment of HIV and its complications. HIV testing by trained volunteer counselors is available seven days a week at no charge. HIV/AIDS treatment clinics are conducted once a week on Wednesday evenings. The clinic participates in several antiretroviral drug trials; all medical staff are volunteers. Two or three physicians see about 10 patients during each weekly treatment clinic. Over two years ago, a local physician noticed that the population at greatest risk of contracting and spreading the disease remained largely untouched by public and private health programs, and this led to the establishment of the clinic, now the largest HIV/AIDS testing and treatment center in the state. The testing program diagnoses more HIV cases than any other clinic in the state. J

Sexual assault *(continued)*

News of the program's success has reached authorities as far away as New York, New Mexico, and Indiana; all have requested assistance in forming their own SART program, Williamson said.

"We took Oklahoma County from being way behind in response to victims of sexual assault to a point above anyone else in Oklahoma and many in the United States," Williamson said. "We want to bring that kind of recognition not only to this program but to University Hospital as well."

Rodgers, Rooms, and Williamson plan to begin SANE training in Oklahoma City this June and there are several expansion projects on the horizon for the program.

Note: April is Sexual Assault Awareness Month. University Hospital Emergency Department Physicians and Central Oklahoma Clinical Forensic Consultants personnel are available for interviews and more information about sexual assault.

Free post-bombing services continue in OKC

Assessment and treatment of children, their families and other adults who continue to be affected by the Murrah Building bombing is available at no cost through the Child Study Center, an affiliate of the University of Oklahoma Department of Pediatrics and Children's Hospital of Oklahoma.

The center's "Strengthening the Heartland" programs are designed to complement care already being offered through Project Heartland and are designed for bombing victims, those who lost family members and friends in the blast, volunteers, rescue workers, and their families.

The services available include needs/risk assessment and intervention services in both individual and group settings, and are designed to go beyond immediate crisis counseling to provide long-term healing.

"Crisis counseling and supportive programs are important to positive healing and recovery, but these services alone may not be sufficient to regain our strengths," said Dr. Robin Gurwitch, director of the center's trauma intervention programs and clinical assistant professor of pediatrics at the OU Health Sciences Center (OUHSC). "People have very individual timetables on how they respond to a tragedy such as this, and our services help parents answer such questions as 'Is my child doing okay?' Once an assessment is completed, specific interventions and treatments to address the aftermath of trauma may or may not be needed. Strengthening the Heartland programs are designed to address specific issues that individuals and families may still have as they continue to recover from this tragedy."

Some of the common reactions to trauma which may warrant treatment

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Services continue *(continue)*

include reliving the event through thoughts, dreams, or visual memories; mood swings (irritability, sadness, anger, guilt); sleep difficulties and nightmares; concentration and memory problems; being overly watchful or "on guard," emotional numbing; physical symptoms (e.g., nausea, fatigue, headaches, stomach and cardiac problems); increased alcohol and drug use or abuse; changes in communication; changes in family relations; and in children, falling grades and/or "acting out" behavior in school.

"These symptoms can last for more than a year and vary among individuals and between adults and children," Gurwitch noted. "Symptoms also often come and go over time, and these may increase with the first anniversary of the bombing."

Cost of the Strengthening the Heartland program is supported through a grant from Children's Medical Research, Inc. Services are provided by trained individuals from the OUHSC Department of Pediatrics, the OUHSC Department of Psychiatry and Behavioral Sciences, and other professionals in the Oklahoma City community. All services are conducted at the OU Health Sciences Center campus in Oklahoma City. For more information about Strengthening the Heartland, call Project Coordinator Anne Messenbaugh at (405) 271-6824, ext. 110. J

Health Department

Acellular pertussis vaccines appear safe and effective in NIAID-sponsored trials

In two large clinical trials supported by the National Institute of Allergy and Infectious Disease (NIAID), researchers in Italy and Sweden have shown that three new vaccines are highly effective in protecting against pertussis, and much less reactogenic than the currently used whole-cell vaccines. It is anticipated that these results will lead to licensure of acellular products for use in infants in the primary series.

The new vaccines are known as "acellular" vaccines because they contain only the specific parts of the pertussis bacterium thought to be important for immunity, in contrast to "whole-cell" vaccines that employ whole, killed pertussis organisms.

In the two randomized, double-blind trials that coincided with severe pertussis epidemics in both countries, three acellular vaccines demonstrated efficacy rates of 84%, 84%, and 85% in protecting vaccinated children against pertussis. The vaccines also caused significantly fewer side effects than did a whole-cell vaccine currently used in the United States. A

(continued)

In Memoriam

1995

Robert M. Wienceke, MD ..... January 3
Mason Russell Lyons, MD ..... January 6
Wallace Byrd, MD ..... January 25
Herbert Victor Lewis Sapper, MD ..... January 26
Addison Bowling Smith, MD ..... January 31
Clifford Jennings Blair, MD ..... February 10
John Richard Danstrom, MD ..... March 5
Elmer William Taylor, MD ..... March 5
Othal Blair Cunnyngham, MD ..... March 14
George S. Bozalis, MD ..... March 21
William Gerald Rogers, MD ..... March 21
Charles Wesley Letcher, MD ..... March 26
John Frederick Bolene, MD ..... March 27
John B. Miles, MD ..... March 31
Elvus Jene Allgood, MD ..... May 6
Wiley T. McCollum, MD ..... May 13
Gerald Leon Honick, MD ..... May 24
William G. Husband, Jr., MD ..... May 25
Henry Washington Harris, MD ..... June 2
Joan Kazanjian Leavitt, MD ..... June 13
Lucien Michael Pascucci, MD ..... July 2
Glen M. Floyd, MD ..... July 8
Marvin Homer Hird, MD ..... July 18
Yale Eugene Parkhurst, MD ..... July 27
Joe Leslie Duer, MD ..... August 25
William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Millison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Theodore Sherman Williams, MD ..... February 22

UCLA consensus conference issues allergy treatment guidelines for sneezin' season

When it comes to allergy sufferers, all people are not the same. Children, the elderly, athletes, and pregnant women have been identified as groups requiring different management and care, according to newly released treatment guidelines for allergic rhinitis, developed at a consensus conference convened by the Office of Continuing Medical Education, UCLA School of Medicine.

The guidelines, which provide physicians with recommended therapies for treating these groups, indicate that genetic and environmental factors may provoke or worsen the symptoms of allergic rhinitis in each group. For instance, if one parent has allergies, there is a 50% chance the child will have allergies. Allergies may also be more common in children who were formula-fed, had a low birth weight, or were exposed to dogs, cats, and/or tobacco smoke early in life. In addition, infants exposed to high levels of house dust mites during their first year of life have been shown to have a five-fold increased incidence of asthma.

In athletes, physical exercise initially is associated with opening of the nasal passages. In some, a rebound congestion of a longer duration can occur which can impair performance. In women, allergic rhinitis symptoms may worsen during pregnancy. While fewer factors provoke rhinitis in the elderly, treatment needs to be more tailored due to slower metabolism and the potential for side effects. Also, this population is more likely to be taking multiple medications, including over-the-counter medications, and therefore runs a greater risk of drug interactions than most other patients.

"Because each of these groups has very special needs, their management and treatment needs to be individualized," said Sheldon Spector, MD, clinical professor of medicine, UCLA School of Medicine. "In young children, for example, medication dosage should be prescribed according to their size."

The guidelines indicate that for many patients, topical nasal steroids and antihistamines provide effective treatment. Based on studies showing that sedating antihistamines can cause drowsiness and have a negative impact on thought and function, the guidelines suggest the use of nonsedating agents which cause no more impairment than placebos. Some patients require a combination of agents to control their symptoms.

"Our hope is that the treatment guidelines will help reduce the long-term health complications and costs often associated with allergies, including associated chronic respiratory disorders such as asthma, sinusitis, and respiratory infections," said Spector.

To identify individual patient needs, the guidelines include a Patient Evaluation Form. This interactive tool asks patients to track their symptoms, catalogue their family history of allergies, and describe the effects of allergies on daily life.

A free brochure will be made available to consumers through their physicians' offices.

The guidelines were developed at a consensus conference convened by the Office of Continuing Medical Education, UCLA School of Medicine, and supported by an unrestricted educational grant from Schering-Plough Corporation.

The UCLA Public Information Office is located at James West Center, Box 951431, Los Angeles, CA 90095-1431, 310-825-2585, fax 310-206-3455.

Acellular pertussis vaccines *(continued)*

fourth acellular vaccine also had fewer side effects than the whole-cell vaccine, but was less effective (58%). An unexpected finding in both studies was that the whole-cell vaccine, widely used in the U.S., was less protective than the acellular vaccines, with efficacy rates of only 36% in U.S. infants, and 48% in Italian and Swedish infants. The epidemic conditions in Sweden and Italy differed markedly from those normally found in the U.S. Pertussis is less common in the U.S. than in Italy and Sweden, where pertussis vaccines are not as widely used. Based on national surveillance and immunization coverage data during the period 1992-94, the effectiveness of three doses of whole-cell vaccines among U.S. children aged 7 months to 18 months remained high. Therefore, until the new vaccines are available for use with infants, it is critical that all infants be immunized with the currently licensed vaccines for the first three doses of the four-dose primary series.

Since 1976, the year with the lowest number of U.S. pertussis cases ever reported (1,010), there has been an upward trend in reported pertussis incidence. Noting the difficulty in diagnosing pertussis and confirming pertussis by laboratory test, the Centers for Disease Control and Prevention estimate that this number represents only about 10% of the actual number of cases in the U.S. Oklahoma reported 122 cases in 1993, 23 cases in 1994, and 37 cases in 1995.

A significant proportion of pertussis infections occur in adolescents and adults whose levels of protective antibodies have declined. These adolescents and adults may, in turn, infect infants. Acellular vaccines with fewer side effects may facilitate booster immunization of adults in the future, thereby reducing the burden of pertussis in adults as well as infants. NIAID studies of acellular vaccines in adults are underway in the U.S.

The high efficacy and strong safety profile of these new vaccines will encourage more parents worldwide to have their children immunized against pertussis. It is not known at this time when licensure for the acellular pertussis vaccines will occur, but it is expected to be licensed relatively soon for infants and older children. In the meantime, with pertussis remaining a danger in our state, continued use of the current pertussis vaccine for Oklahoma infants is vital.

Like taxes, directory corrections a fact of life

The best laid plans of mice, men, and publishers cannot produce an error-free directory, and the *1996 OSMA Directory of Physicians* is no exception. Perhaps the blame lies with the pessimistic editor who, tempting fate, opted to include a Directory Correction form on page 167.

In any case, the following corrections are those which, to date, have been brought to our attention. Should more be received by OSMA Membership Coordinator Judy Lake, they too will appear on the pages of this publication.

On page 163, at the bottom of the first column: Dr. Roland Walters' current term of office expires **4/98**, *not* 4/96

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Deaths

Theodore Sherman Williams, MD
1911 - 1996

Life Member Theodore S. Williams, MD, died February 22, 1996, in Tulsa. A retired general practitioner and surgeon, Dr. Williams was born in Zena, Oklahoma, and earned his medical degree at the University of Oklahoma College of Medicine in 1938. He completed a residency in orthopedic and traumatic surgery in Tulsa before establishing his practice there. Dr. Williams was a co-founder of Doctors' Hospital in 1966 and served as chief of staff through the seventies. He retired in 1979.

Classifieds

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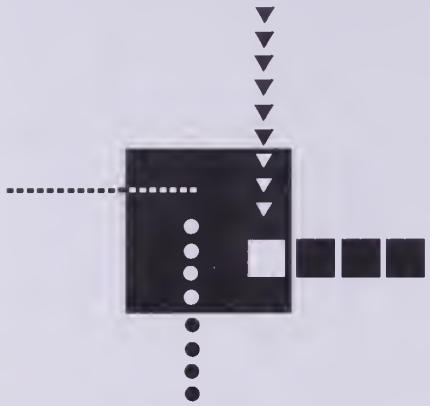

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Highlights of the June meeting include an information exchange, which builds on the December 1995, program theme, "Creating the Future and Getting There First." Physicians will:

- ***Gain*** insight into the " nuts and bolts" of establishing a viable, autonomous organization, and
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In addition, an education program, "Keys to Influencing Physician Performance and Developing Successful Clinical Pathways," will help physicians:

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For more information, please call 800 AMA-3211 and ask for the AMA's Department of Organized Medical Staff Services.

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THE LAST WORD

■ **The Oklahoma County Medical Society's 1996 officers** have officially assumed their posts. President John R. Bozalis, MD, an allergist, succeeds Dr. Michael L. Winzenread. He will team with President-Elect J. Christopher Carey, MD, surgeon; Vice-President Robert L. Wilson, MD, internist; and Secretary-Treasurer Rebecca Goen Tisdal, MD, radiologist. Their inaugural banquet this year was held at the Oklahoma City Golf and Country Club. In addition to these officers, the 1996 OCMS board members are Brian P. Levy, MD; Edward N. Brandt, Jr., MD; V. Ramgopal, MD; Mark C. Johnson, MD; Michael Terry Anderson, MD; Stephen K. Cagle, MD; Michael K. Crawford, MD; Jay C. Johnston, MD; and Glenn P. Dewberry, Jr., MD.

■ **Nancy W. Dickey, a Texas family physician, is the new** chair of the American Medical Association Board of Trustees. Dr. Dickey succeeds P. John Seward, MD, who resigned the post during the AMA Interim Meeting in December. Dr. Seward will replace James S. Todd, MD, as AMA executive vice president in June. Many Oklahoma physicians will remember Dr. Dickey from her appearance at last year's OSMA Annual Meeting.

■ **The Oklahoma Board of Medical Licensure and Supervision** (OBMLS) has extended its office hours to 8:30 PM, Monday through Friday, excluding holidays. From 4:30 to 8:30 PM, a skeleton staff will provide the following services: verification information on licentiates, assistance with the application process, location of files for review, copying, and receipt of mail. OBMLS is located at 5104 North Francis, Suite C, Oklahoma City, OK 73118-6020, 1-405-848-6841.

■ **In December, PROklahoma Care received a Business Review** Letter from the United States Justice Department indicating the company is in compliance with all anti-trust regulations. PROklahoma Care is licensed to operate in 62 Oklahoma counties and has contracts with 59 hospitals. They recently became one of eight HMOs to successfully bid for a contract with the Oklahoma State and Education Employees Group Insurance Board.

■ **In February the Oklahoma Board of Health amended** its regulations on HMOs to ban gag rules that limit what physicians can say to their patients regarding treatment options. Specifically, the Board of Health adopted the following language: "To forestall potential conflicts between the HMO's interests and the provider's fiduciary responsibility to the patient, the Commissioner and the Health Department's staff should ensure that HMO provider contracts include the following safeguarding provisions: (1) The HMO does not practice medicine or any other profession, as per Section 2505 of the HMO licensing law; (2) the HMO's utilization review and quality assurance policies shall not be administered so as to interfere with the provider's obligation to exercise independent medical judgment; and (3) the HMO shall not retaliate in any manner against a provider who advocates services for patients. OSMA members on the Oklahoma Board of Health are: Gordon H. Deckert, MD, Oklahoma City psychiatrist; R. Brent Smith, MD, Lawton family practitioner; Jay A. Gregory, MD, Muskogee surgeon; and Glen E. Diacon, Jr., MD, Ada urological surgeon.

■ **Although Ed Kelsay, formerly OSMA's general counsel,** is now loss prevention manager for PLICO, physicians can still get legal assistance from the OSMA. Questions about loss prevention seminars and general PLICO information should be directed to Debbie Thurmond of the OSMA staff or to Mr. Kelsay (405-720-9800). Medical malpractice questions should be referred to Kelsay or to PLICO's Charles McDonald (405-528-4904 or 1-800-522-9219). General legal questions will be screened by Mrs. Thurmond and workers' compensation questions should be directed to OSMA Associate Director Lyle Kelsey. Legislative legal issues are being referred to attorney Randy Sewell (405-232-1211).

■ **At its February meeting, the Oklahoma State Medical** Association Board of Trustees named the recipients of the Physician Award for Community Service and the Donald J. Blair Friend of Medicine Award. Mukesh T. Parekh, MD, Oklahoma City obstetrician-gynecologist, will receive the Wyeth-Ayerst Physician Award for Community Service and Governor Frank Keating will be given the Donald J. Blair Friend of Medicine Award. The awards are to be presented at the OSMA House of Delegates meeting in Tulsa this month.

■ **Changes on the OSMA staff continue. Claudia Kamas,** OSMA lobbyist for eight years, resigned in February. She plans to continue to work as a free-lance lobbyist. Meanwhile, lobbyist Clayton Taylor has agreed to work on OSMA's behalf for the remainder of this legislative session. Susan Meeks, a member of the OSMA administrative staff since 1981, resigned in mid-March. She recently married and will devote her time to family responsibilities.

On the plus side, two new part-time receptionists have been hired. Receptionist responsibilities are now being covered by Marilyn Fick from 9 A.M. to 1 P.M., and by Janet Carr from 1 to 5 P.M. They replace Toni Farrar, now a secretary. Beth Dees is working on a short-term basis to assist with extra work generated by the legislative session and to help prepare for OSMA's Annual Meeting this month. Acting Executive Director Mike Sulzycki anticipates that job responsibilities on staff will continue to shift as needed until a new CEO takes over.

■ **William L. Hughes, MD, Oklahoma City oncologist, has** resigned as chair of the Oklahoma Medical Political Action Committee (OMPAC). OSMA President Larry L. Long, MD, has appointed OSMA Past President Jay A. Gregory, MD, to fill the post. The OMPAC Board is to meet this month during the OSMA Annual Meeting in Tulsa to discuss policy and elect officers.

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EDITORIAL

Beset by Buzzwords 161
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE

The Healing Process 163
D.L. Harper, Tulsa

SCIENTIFIC

Health Care of Oklahoma Indians 165
E.R. Rhoades, Mary Helen Deer Smith; Oklahoma City

Poison Prevention for the Elderly 173
L. McGoodwin, Oklahoma City

SPECIAL

Oklahoma Centralized Verification Organization: A Way Out of the Paperwork Nightmare 177
M. Seba, Tulsa

DEPARTMENTS

Health Department, 179... Deaths, 182... Classifieds, 183... In Memoriam, 183... Instructions for Authors, 188... Alliance, 189... The Last Word, 190

ABOUT THE COVER

Arthur H. Schipul, Jr., MD, of the Department of Obstetrics and Gynecology at the University of Oklahoma Health Sciences Center in Oklahoma City, submitted this colorful photograph of bougainvillea.

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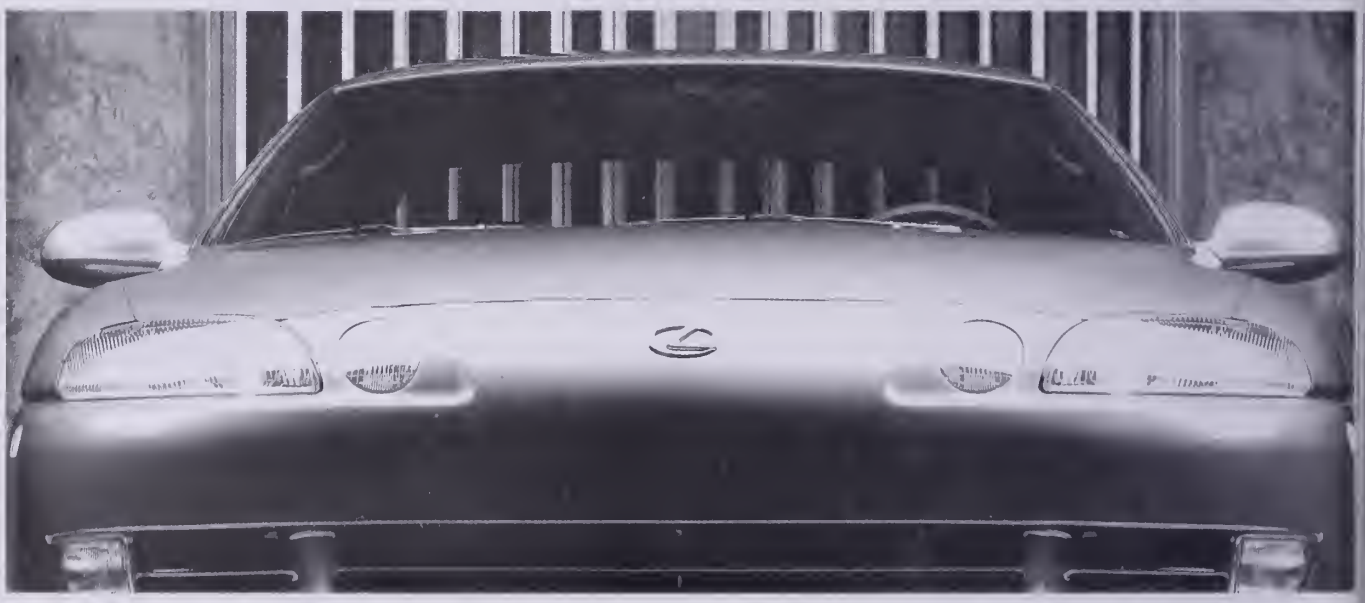

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EDITORIAL

Beset by Buzzwords

The lexicon of the health care industry is strewn, or littered, with neologisms and newly minted phrases. *Medicare, Medicaid, health maintenance organization, utilization review, point-of-service option, out-of-plan access, managed care,* and a jillion other buzzwords and vaguely defined phrases now clutter the verbal landscape in our discussions of health care.

A common factor of this new vocabulary is that many of these fabricated words symbolize very complex concepts in government and insurance contracts, and a great many of them were thought up by advertising wordsmiths who wanted to sugar-coat a bitter pill. Thus we have come to a time in our national discourse when we discuss and debate health policy changes while using a vocabulary that is poorly understood by nearly everyone and is incorrectly used by many. The prevalent replacement of buzzwords for logical thought has been a negative distraction in our nation's health policy debate.

The present climate of change in health care delivery has coincided in time with a marked expansion in health care technology and improved morbidity. Health care nowadays has become so effective and important to human life that no reasonable citizen will consider doing without it. Today's complex health care is also more costly to purchase than the simpler remedies of times past; a larger proportion of the citizen's income is now required to buy today's health care.

Into this turbulent medicoeconomic storm the government agencies and the insurance companies have interjected programs designed to capitalize on citizen anxiety about health care costs and to use this anxiety to establish a health suzerainty of government regulations and insurance contracts. Thus, there has come to be an intense struggle among government, insurance companies, and the medical professional for control of, or access to, the patient's health care dollar.

The medical profession has not done very well in this contest for patient constituency control, and presently the insurance contract is winning. A clear signal of the changing times is seen in the numbers of physician practices that are being bought by hospital-based corporations. In Oklahoma we are nearing the time when half of all primary care practices are under the control of shareholder corporations or government entities. It is presently unknown what effect this revolutionary change will have on patient care, outcome, and satisfaction, but the prophesies now bandied about are laced with the ill-defined buzzwords of our current health care lexicon.

Oklahoma physicians of the OSMA have initiated a major riposte to these distracting and contentious medicoeconomic enterprises. The recent establishment of the Oklahoma Physicians Network and PROklahoma Care offers an opportunity for benevolent and altruistic physicians to retain control of the practice elements necessary for quality patient health care to survive in an insurance-dominated market. Oklahoma physicians should now rally around and help and support these good physicians operating these projects so that the integrity of good health care is preserved. The structured illogic of the propaganda buzzwords should not be a determinant of patient outcomes.

The prevalent replacement of buzzwords for logical thought has been a negative distraction in our nation's health policy debate.

Kay V. McIntyre, M.D.

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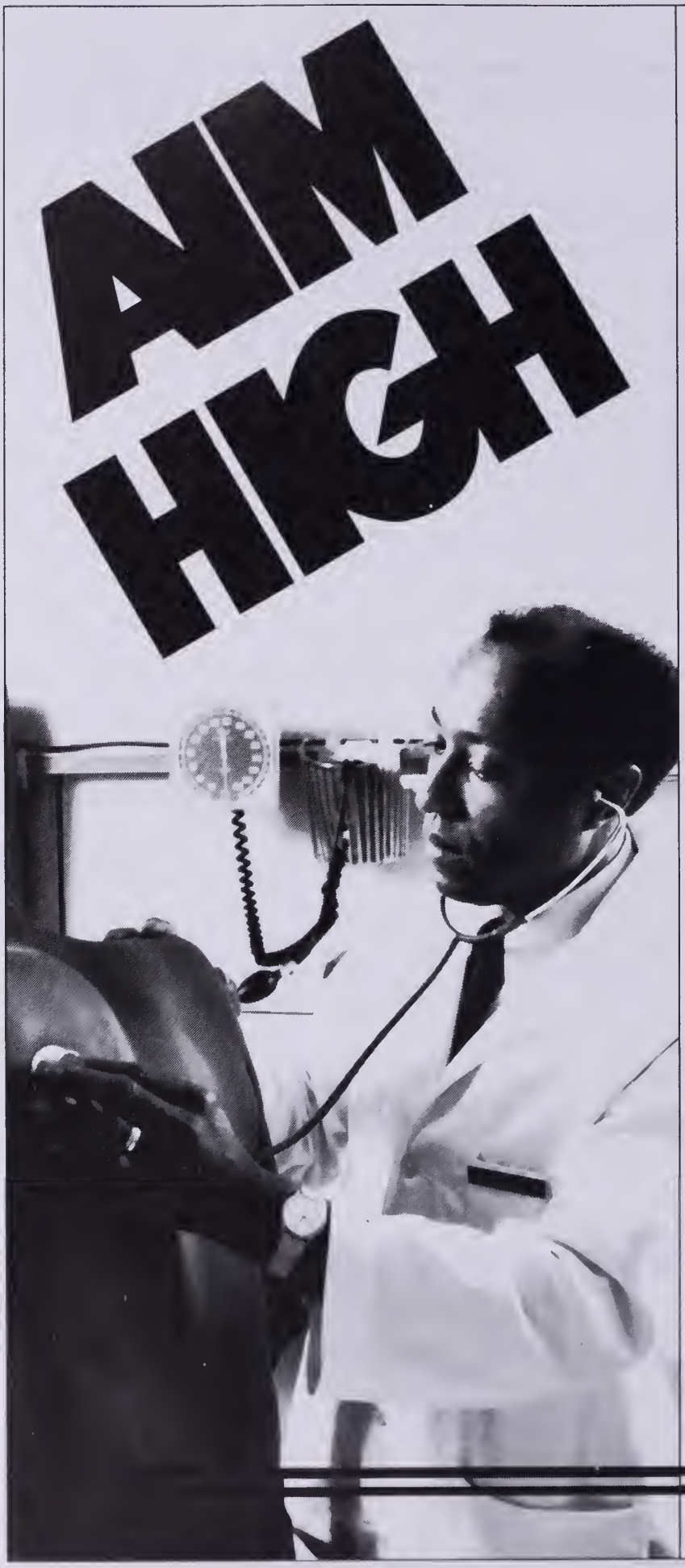
The Healing Process

It is time to let the healing process begin. Let us put past differences aside. Let us as individual members and as an organization move forward as a unified Oklahoma State Medical Association. Our goal for 1996 should be to change our organization into a truly unified membership which can move forward representing the best interests of patients and of physicians in our state.

Our individual differences have seemed great on many occasions in the past few years, but I believe that in most instances the differences were fueled by individual beliefs, however different and disparate, concerning what was perceived as best for the OSMA. We should hope that different ideas were just that—different approaches to better our organization—and not plans to further personal agendas. We must strive to bridge our differences with the link of trust and respect, then we can spend our energy making the OSMA a vibrant, growing, effective organization whose energy is spent furthering the interest of good medical care in Oklahoma.

We all should rise above petty differences in opinion and seek out solutions to problems in an atmosphere of mutual respect. Let us meet the challenge to make ourselves better, to make the Oklahoma State Medical Association better, and strive to make healthcare in Oklahoma the best it can be. Our patients deserve it, our physician members expect it, and we of the OSMA should rise to the occasion.

David Hagen



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Health Care of Oklahoma Indians

Everett R. Rhoades, MD; Mary Helen Deer Smith, RN

The many unique aspects of Indian life extend into the health care arena, of special interest in Oklahoma, the "home of the red man." The long historical relationship of certain Indian tribes with the federal government has resulted in one of the most complicated social, administrative, and governmental arrangements anywhere. A consequence of this relationship was, in effect, a business transaction resulting in the ceding of virtually all Indian lands of the U.S. and an assumption by the latter to provide certain services, including health care, to affected tribes. With the 33 different tribes in Oklahoma; the dual entitlement possessed by Indian people; the contributions of the Indian Health Service to the economy of Oklahoma; and the growing revolution in health care, knowledge of the special circumstances of Indian life and health care is important even for practitioners who do not regularly encounter Indian people in their own practices.

Indian tribes constitute an important component of the Oklahoma population. However, because of their sovereign nature and relationship with the federal government, their influence extends beyond mere numbers. In spite of proximity, ignorance of the Indian populations and their special circumstances are widespread. Further, as the country seeks new models of health care and ways to limit spending for federal programs, knowledge of the special Indian health care circumstances become important. This report is a brief description of Indian health services, including those in Oklahoma, and is intended to provide information that should help dispel some of the common misconceptions about Indians and Indian services.

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Background

According to projections from the 1990 census, 246,750 self-identified Indians resided in Oklahoma in 1992.[1] This comprises 21.5% of the entire Indian population in the U.S. and approximately 10% of the total Oklahoma population. The Indian Health Service (IHS) provides care to members of 37 separate tribes within its jurisdiction; 33 of these are located in Oklahoma. As a result of the General Allotment Act,[2] the previous reservations in Oklahoma were abolished and most of the land was distributed to individual Indians with certain tracts held in reserve for schools, hospitals, cemeteries, and other tribal use.

Lands allotted to Indians are held in trust (often referred to as "restricted") by the federal government. To a considerable extent, the formation of the state of Oklahoma was made possible by the ceding of what became Oklahoma Territory by the Creek and Seminole Nations.[3,4] Just as can be done geographically, the state can be divided into an eastern and a western half by the tribes residing therein. The great preponderance of the Indian population resides on the "east side" by virtue of the larger populations among the so-called "five civilized tribes": Cherokee, Choctaw, Chickasaw, Creek, and Seminole. The Cherokee Tribe is now the largest in the nation, with more than

Health services provided by the federal government for Indian people are not a gift.

200,000 members. Not all reside in Oklahoma. A smaller number of distinctive tribes reside in the western half of the state. There are relatively fewer Indians living in the northwest quadrant of the state, but one should not assume that there are no Indians residing there.

Indian Tribes Are Sovereign Nations

Even as the new American nation was developing, questions of its, and its citizens' relationship to the aboriginal inhabitants of the continent were becoming urgent.[5] Conflicts inevitably arose, largely because of encroachment upon the lands and territories of the Indians. However, land struggles were but one of the more visible manifestations in a struggle between competing sovereign attributes of two basically incompatible groups. The result is a complicated series of relationships involving the federal government and tribes; the federal government and the states (in which similar sovereignty questions are likewise not yet entirely resolved); and tribes and states.

Health services to Indian people, provided for in treaties and legislation, have resulted in a comprehensive national program by the federal government.

Questions arising from these many and various conflicts have been repeatedly adjudicated in the U.S. Supreme Court, the ultimate arbiter of disputes. The Supreme Court ruled as early as 1831 that tribes in the United States were sovereign nations.[6] Notwithstanding that this sovereignty is a special kind, being described as "domestic" and "dependent," it remains sovereign to this day and has been repeatedly reaffirmed by the executive, judicial, and legislative branches of the federal government. Further, this sovereignty isn't something granted to the tribes; rather the inherent sovereignty of the tribes was simply recognized and acknowledged by the federal government. A long series of treaties not only reaffirmed tribal sovereignty, but established certain obligations on the part of the country in return for major concessions on the part of the tribes. These federal obligations included, among other things, provision of health services to the Indians.[7] It is appropriate to look upon the resulting health care as deriving from a contract as binding as the treaties themselves.

The Government-to-Government Relationship

One result of tribal sovereignty is the recognition that in its dealings with Indian tribes, the federal government can only deal on a government-to-government basis. This concept likewise has been repeatedly reaffirmed by all branches of the federal government, most recently by President Clinton. It follows that the various states have no choice but to also deal with the tribes on a government-to-government basis.

Indian Health Services Are Not Free

Health services provided by the federal government for Indian people are not a gift. They are the result of business arrangements between two parties that resulted in a prepaid health plan. The health plan was prepaid by cession of the entire lands (except for small parcels "reserved" for Indians to live on and for other federal purposes) of the United States. Those who question whether the federal government struck a sound bargain with the various tribes might well consider the value of any one of the smaller states in comparison to the sum total of appropriated dollars for Indian care.

The Indian Health Service (IHS)

Health services to Indian people, provided for in treaties and legislation, have resulted in a comprehensive national program by the federal government. Health services for Indian people, located first in the Department of Interior, reached a high level of accomplishment as a result of the Transfer Act of 1954.[8] This act provided that "all functions, responsibilities, authorities, and duties... relating to the maintenance and operation of hospital and health facilities for Indians, and the conservation of Indian health... shall be administered by the Surgeon General of the United States Public Health Service." The IHS as part of the U.S. Public Health Service, operates a delivery system that provides a broad program of preventive, curative, rehabilitative, and environmental services. This system integrates health services delivered directly through IHS facilities and staff with health services purchased through contractual arrangements with the private sector.

Presently, the IHS provides services to approximately 1.4 million Indians throughout the United States[1] who reside in counties within or near reservations in 34 states extending from Alaska to Florida, and Maine to California, employing approximately 900 physicians who serve in 50 hospitals and several hundred clinics. The IHS is a decentralized program in which the basic organizational structure is the local service unit. Service units are often, but not always, organized around a hospital with outlying clinics, but may be a group of clinics without a hospital. Activities in service units are coordinated and directed through 12 area offices located throughout the United States.[9]

The IHS Has a Single Goal

In the Indian Health Care Improvement Act of 1976 (P.L. 94-437),[12] the Congress enunciated a unique philosophical dictum, quite different from

that existing anywhere else in the U.S. health care. This dictum was considered to be so important that the Congress specifically laid out in Sec. 3 the following declaration: "The Congress hereby declares that it is the policy of this nation, in fulfillment of its special responsibilities and legal obligation to the American Indian people, to meet the national goal of providing the highest possible health status to Indians and to provide existing Indian health services with all resources necessary to effect that policy."

Thus, the mission of the IHS arises from a single goal, affirmed by Congress in the Indian Health Care Improvement Act of 1976, reauthorized in 1992: to raise the health of Indians to the highest possible level. Such a concept, expressing in effect a necessary moral vision, is striking by its absence from the continuing search for new health paradigms for the country. It is important to recognize that this moral vision reaffirms the language of the Snyder Act of 1921 and goes far beyond the mere provision of physicians, nurses, etc. On the contrary, it lays the basis for true community-oriented primary preventive and therapeutic care that many emerging systems are beginning to emulate, albeit unknowingly.

The IHS As a Unique Health Delivery System

Achieving the above goal has resulted in the development of a delivery system with certain unique characteristics. The IHS integrates a decentralized program into a single national administration providing a wide array of community based prevention services and highly technical, clinic- or hospital-based curative care. This decentralization provides for operational decision making to occur locally in the 143 service units where actual services are rendered to tribal members. While avoiding the management of programs, headquarters personnel are concerned with coordination and integration of this multitude of services through formulating a national budget request, setting of priorities, allocation of resources, and program design. No other health delivery system attempts to integrate such a broad range of community services including sanitation, construction of facilities, health education, public health nursing, and community lay workers into a single program. This unique model, with its emphasis on continuity and consistency, is frequently studied by foreign countries seeking delivery systems that demonstrate effective integration of preventive, community, and clinical aspects of comprehensive health care.[11]

Insufficient Funds Appropriated by the Congress

The essential limiting factor in the provision of health services for Indians has always arisen from the fact that the Congress has never appropriated anything near the amount of funds necessary to meet the health needs of Indian people. This chronic shortfall in funds has had two important consequences. First, rationing has been and continues to be an important aspect of the delivery of care to Indian people. The only difference between the rationing that occurs in the IHS and the rest of the country is that the latter still pretends that rationing is not an essential aspect of health care, while the IHS has attempted to ration health care built upon sound health status principles; that is, the effect of programs and resources on the status of health of Indian people. Indeed, the country could, with a great deal of profit, study the Indian Health Service as a premier example of care directed toward the health of the entire community.

The Residual Nature of IHS

The doctrine of the residual nature of the IHS also has a long history. Under this doctrine, the IHS is required to expend funds for the health of Indian people only after all other sources of funding have been exhausted. As a result, IHS encourages Indian people to enroll in appropriate programs for which they are eligible, including Medicare and Medicaid, and the IHS actively attempts to collect from these sources for care provided to eligible Indians. Thus, the IHS, like essentially every other provider, seeks to be the payer of last resort, not the first. This is important to remember because a considerable degree of discrimination continues to be directed towards Indians by those who tell Indians to go to the IHS for care, since that is "their" system of care. It is easy to see that certain Indians may "fall through the cracks" when this happens. This factor, if no other, requires that those who are planning for the future health care of Oklahoma citizens must take into account the insufficient resources of the IHS and its resultant residual nature.[12]

The IHS Is Not an Entitlement Program

The IHS is not an entitlement program in the sense that Medicare is. In fact, the IHS has always operated under a "universal cap" of resources, set by the Congress in its annual appropriations. This is a point that is often unappreciated by Indians and non-Indians alike. Under the Snyder Act of 1921, the Secretary of the Interior (now the Secretary of Health and Human Services) is permitted to expend only those monies authorized or appro-

IHS encourages Indian people to enroll in appropriate programs for which they are eligible, including Medicare and Medicaid...

priated by the Congress.[13] Many Indian people have argued that, in fact, health services for them under treaty provisions should be an entitlement, and the Congress should provide the funds necessary to carry out the health care program. However, more recently, many Indians have come to recognize that the entitlement elements of Medicare are sharply delimited and are in the process of being revised downwards.

Indians Have a "Dual Entitlement"

A source of confusion arises from the various meanings of the term, "entitlement." Although all Indians appropriately believe they are entitled to certain health benefits, the use of "entitlement" in this case is quite different from that used to describe the Medicare program, for example. The "dual entitlement" rule simply states that Indian people, notwithstanding special arrangements between the federal government and their own tribe, cannot be denied any rights and privileges accorded to the general U.S. population. This means that Indian people cannot be denied services simply because there is an IHS.

The IHS has developed a prioritization mechanism in order to provide payment for the most urgent care.

Eligibility for Services

In any health system, there are no more than three variables that can be managed in attempting to match resources with services: the resources themselves; the number of individuals served; or the numbers (or kinds) of services provided. This is the basis of all rationing of health care. Because of its emphasis on community care and because in earlier days, the Indian community was more clearly defined, the IHS had a tradition of inclusion rather than exclusion of individuals receiving services. However, budgetary constraints and the diffusion of many Indians into the rest of the culture has forced the IHS to re-examine ways to ration its care.

The IHS is severely restricted in its ability to deal with any of these variables, especially that dealing with the numbers of persons served through eligibility requirements. Unfortunately, the Snyder Act leaves unclear the definition of who is to benefit from Congressional appropriations, leaving to the agencies the difficult and controversial task of making determinations of eligibility.[14] The Snyder Act merely provides for services for "Indians throughout the United States," hardly providing any basis at all for the establishment of eligibility criteria.

Until the question of eligibility is resolved, the situation in regard to allocation of insufficient resources will remain very unsatisfactory. It is clear that only the Congress can ultimately resolve this dilemma. So far, it has studiously avoided dealing with the problem, and even prohibited the IHS from implementing newer eligibility requirements.

The current criteria for eligibility for IHS services state: "In general, (1) Services will be made available as medically indicated, to persons of Indian descent belonging to the Indian community serviced by the local facilities and program, and non-Indian wives of such persons; (2) Generally, an individual may be regarded as within the scope of the Indian health and medical service program if he is regarded as an Indian by the community in which he lives, as evidenced by such factors as tribal membership, enrollment, residence on tax-exempt land, ownership of restricted property, active participation in tribal affairs, or other relevant factors in keeping with general Bureau of Indian Affairs practices in the jurisdiction."[15]

A person is eligible to receive direct health services provided he or she is of Indian descent and has close social and economic ties to a federally recognized tribe. One of two criteria is required to establish Indian descent: membership in a federally recognized tribe or a certificate provided by the Bureau of Indian Affairs. In spite of the somewhat unsatisfactory nature of this definition, it has served reasonably well for services provided in IHS facilities.

The IHS Contract Health Services Program

This program is of immediate importance to private providers. The increasing need for complicated care not available directly in IHS facilities has led to the establishment of the Contract Health Services program, in which the IHS purchases care from the private sector. As a result, the IHS is subject to the same financial concerns that face the Health Care Financing Administration and other payers.

The IHS has developed a prioritization mechanism in order to provide payment for the most urgent care. Rather than establish a set "benefits package," the IHS has defined this "package" as follows: Highest priority for payment is for those procedures and/or treatments that in the opinion of the attending physician are necessary to prevent loss of life, limb, or one of the senses; or to prevent progression of a condition. This definition permits far more discretion for the physician and avoids the obvious difficulties of operating from a specified list.

With the increasing requirement that the IHS purchase ever more complicated care from the private sector, it was necessary to review exist-

ing eligibility criteria because of the obvious depletion of resources that would result from attempting to pay for care of all the Indians "throughout the United States." This situation has forced the IHS to become its own health care financing organization. In this system, the essential decision is not what services should be provided to patients, but rather the more difficult questions of which medical services are deemed to be necessary and therefore, paid for at the highest priority. The decision to pay or not pay a given bill for services, the hallmark of modern care in America, changes the decision making substantially. This has resulted in a set of requirements that is generally unacceptable to those who have devoted their lifetime to service to others.

In any case, it quickly became imperative that IHS develop a new set of criteria in order to deal with obligations to pay for services rendered in the private sector and to which many thousands of Indians would be eligible. The previous criteria for direct services remained in effect, but additional criteria were adopted to guide the payment for services provided by the private sector and paid for by the IHS. The individual now must also reside within a specific Contract Health Services Delivery Area (CHSDA). Generally, a CHSDA is comprised of counties on or near reservations. Thus, Indians moving to distant locations lose eligibility for contract health services, and IHS does not pay for care received in such locations. Even when an individual returns to reside in a CHSDA, it is necessary for him or her to establish residence and remain there for a period of 180 days before becoming eligible for contract health services. Again, this is a generally unsatisfactory arrangement for many Indians, but it does have the effect of maximizing resources for those on or near reservations, a long-standing concept that the Congress has been reluctant to modify.

Eligibility for Services Does Not Guarantee Access to Care

Of great frustration to many Indian people is the realization that notwithstanding centuries of treaties, legislation, and other obligations, the Congress has never appropriated the resources necessary to provide all the needed care. Further, it is unlikely to do so. Indeed, none of the treaties require the federal government to provide all of the services necessary, or even deemed desirable by some. This is a bitter realization for many Indian people. It might well serve as a warning to all citizens that no nation can provide all the services needed by all its citizens.

Indian Self-Determination and Self-Governance

Especially since passage of the 1975 Indian Self-Determination Act (PL 93-638),[16] tribes have assumed management of more and more of the federal programs operated for their benefit. PL 93-638 and its 1988 amendments "builds upon IHS policy by giving tribes the option of manning and managing IHS programs in their communities, and provides for funding for improvement of tribal capacity to contract under the act." This movement towards tribal operation is another transition that may be confusing to those who have long worked directly with the IHS and who are now unsure of whether a tribe or the IHS is the primary provider. It is still useful to think in terms of a single system of care that is operated by different local organizations. In 1992, Congress extended self-determination through the Tribal Self-Governance Program, which provides the tribes with even greater decision-making power. Further, it is based on an expected diminution of the "bureaucracy" of the IHS. The ultimate result of this new program cannot at present be predicted, but one effect will surely be a shift of authority away from the IHS to the tribes. The mechanism utilized by the self-governance tribes is called a "compact," a term that will be encountered more and more. One of the effects of tribal operation of programs is that tribes have much greater latitude to tailor programs to their local needs, but also they are in a position to offer services to non-Indians and thus in effect compete with other providers for care to all citizens. How extensive this might ultimately be is impossible to predict at the present time.

Sources of IHS Funding

The basic program of the IHS is funded by the Congress in annual appropriations. In FY 1995, the Congressional appropriation for IHS was $1.963 billion; of which $1.709 was for clinical services and $253 million was for construction and maintenance of facilities, including sanitation facilities for Indian homes. These sums are allocated to the various IHS areas through an elaborate system called the resource allocation methodology. A second source of funding was established in 1976 by the Indian Health Care Improvement Act (PL 94-437). In this act, Congress provided that the IHS could collect fees from Medicare and Medicaid for services provided to eligible Indians who received their care in IHS facilities. These funds are placed in a special account and used for accreditation of programs. The same principle was later extended to provide the IHS author-

The basic program of the IHS is funded by the Congress in annual appropriations.

ity to collect fees from private insurance companies, again for care provided to Indians having insurance coverage. However, private insurance has never been a significant source of revenue for the IHS.

Indian Health Services in Oklahoma

The IHS area office for the Oklahoma City area is located, not surprisingly, in Oklahoma City. The "sister" organization to the IHS, the Bureau of Indian Affairs (BIA) (once again, the IHS is not part of the BIA) has an area office in Anadarko and one in Muskogee. The BIA remains in the Department of Interior. The Oklahoma City area of the IHS serves the largest number of Indian people of any of the 12 areas of the IHS. It provides services to members of 37 different separate tribes located in Oklahoma, Kansas, and Texas. However, members of many other tribes reside in Oklahoma and are eligible to receive direct services in IHS and tribal facilities.

The IHS program is the most complex health care delivery in the country...

The Indian population that has made at least one visit to an IHS or tribal facility in the past three years is termed the "user population." For FY 1992, the latest year for which data are available, the total IHS user population was 1,149,881. Of this, 246,750 (21.5%) were located in Oklahoma. It is apparent that the user population in Oklahoma is essentially the same as the census estimates for those identifying themselves as Indian. In either case, the Indian population is a significant proportion of the state population. The distribution of the Oklahoma user population is shown in Table 1. The great variability in size of various Indian groups characterizes Indians throughout the U.S. The Oklahoma Indian population utilizing the Claremore and Tahlequah facilities account for almost one-half of all the Oklahoma Indian visits. The population served by the Claremore service unit alone exceeds the population served by some of the individual areas in other parts of the U.S. The tribes served by the Oklahoma City area office are listed in Table 2. Those knowledgeable of Indian affairs can appreciate the diversity represented among the listed tribes.

The location of the Oklahoma area service units are shown in Table 3. Two are located in Kansas, one at Haskell near Lawrence, and the other at Holton. The Oklahoma area is also responsible for a contract health care program for Kickapoo Indians in Eagle Pass, Texas, but does not operate a facility there. As of October 1, 1995, the Oklahoma area contained 12 service units, 7 hospitals, and 36 outpatient facilities. Of these, tribes operated 2 service units, 3 hospitals, and 19 outpatient facilities. In addition, the Oklahoma City area contracts with urban Indian 501-C-3 organizations to provide health care to urban

Table 1. Workload at IHS and Tribal Facilities Fiscal Year 1990

Service Unit	Patients*
Ada	20,456
Claremore	71,181
Clinton	9,162
Lawton	21,406
Pawnee	12,636
Shawnee	21,748
Tahlequah	41,800
Talihina	23,550
Wewoka	9,068
Haskell, (Ks.)	4,080
Holton, (Ks.)	2,055
Eagle Pass (Tx.)	488
Total	237,630

*Indians who have visited a facility at least once in past three years
Data from Oklahoma Area Office, IHS

Table 2. Tribes Served by the Oklahoma Area

Absentee Shawnee Tribe of Oklahoma
Apache Tribe of Oklahoma
Caddo Tribe of Oklahoma
Cherokee Nation of Oklahoma
Cheyenne-Arapaho Tribes of Oklahoma
Chickasaw Nation of Oklahoma
Choctaw Nation of Oklahoma
Comanche Tribe of Oklahoma
Creek Nation of Oklahoma
Delaware Tribe of Western Oklahoma
Ft. Sill Apache Tribe of Oklahoma
Iowa Tribe of Oklahoma
Kaw Tribe of Oklahoma
Kickapoo Tribe of Kansas
Kickapoo Tribe of Oklahoma
Kickapoo Tribe, Texas Band
Kiowa Tribe of Oklahoma
Miami Tribe of Oklahoma
Modoc Tribe of Oklahoma
Osage Tribe of Oklahoma
Otoe-Missouria Tribe of Oklahoma
Ottawa Tribe of Oklahoma
Pawnee Tribe of Oklahoma
Peoria Tribe of Oklahoma
Ponca Tribe of Oklahoma
Potawatomi Tribe, Citizen Band, Oklahoma
Potawatomi Tribe, Prairie Band, Kansas
Quapaw Tribe of Oklahoma
Sac and Fox Tribe Missouri in Kansas and Nebraska
Seminole Nation of Oklahoma
Seneca-Cayuga Tribe of Oklahoma
Shawnee Tribe, Eastern Oklahoma
Tonkawa Tribe of Oklahoma
Wichita Tribe of Oklahoma
Wyandotte Tribe of Oklahoma

Source: Oklahoma City Area of IHS

Indians in Oklahoma City, Tulsa, Wichita, and Dallas. Health centers are important clinics operated in communities that are too small to support a fully staffed clinic. They are normally open Monday through Friday from 8:00 AM until 5:00 PM. Physicians assigned to health centers ordinarily have no night call. Patients requiring inpatient care are referred to the nearest IHS hospital, unless it is an emergency in which private facilities may be utilized.

IHS and tribal hospitals are typically small; the largest in Oklahoma has 60 beds. Except for the 14-bed facility in Clinton, all IHS hospitals provide general medical, surgical, obstetrical, gynecologic, pediatric, and outpatient services. Hospitals operated by the IHS are located in Claremore, Lawton, Clinton, and Tahlequah. Hospitals operated by the tribes are the Choctaw Hospital in Talihina, the Ada facility operated by the Chickasaw Nation, and the Okemah facility operated by the Creek Nation. The location of the various clinics operated by the IHS and the tribes is shown in Table 4. The relationship of these to rural areas provides a basis for possible cooperation between IHS and the tribes and other rural health care programs.

Indian Health Services Are Complex

There are three primary reasons for the complexity of Indian health services, including those in Oklahoma: (1) In the state are 33 tribal governments, each one sovereign, and each with its own set of characteristics; (2) The IHS program is the most complex health care delivery in the country, combining preventive, curative, rehabilitative, and environmental services into a decentralized system of community oriented primary care; and (3) There are several systems of financing of care for Indian people both directly in IHS facilities and in the purchase of care from the private sector. For example, the IHS is not only a payer for services, but collects from Medicaid and Medicare for services rendered to eligible Indian people. To the already complicated aspects of daily Indian life is added the increasingly complex nature of health care and health care delivery.

Indian Health Services Contribute Greatly to the Economy of the State

The FY 1995 allocation of $230 million to the Oklahoma City area represents a substantial economic contribution to the state. The monies that go directly to private providers through the IHS Contract Health Services Program in FY 1995 was approximately $42 million. The latter program basically covers uninsured Indians ineligible for Medicaid. If the IHS were abolished, as some have from time to time advocated, some other source of care would have to be found for these uninsured individuals. If for no other reason, this fact should require consideration by those planning for health delivery for Oklahoma citizens.

Oklahoma Health Care Authority and SoonerCare

The advent of managed care in the Oklahoma Medicaid program administered through the newly established Oklahoma Health Care Authority is already beginning to have considerable effect on Indian health care services in the state and is expected to bring about considerable change for both the IHS and the tribes. Since they are also providers of care to Medicaid recipients, their income will be affected by the managed care aspects of the Oklahoma Medicaid program. The advent of SoonerCare greatly increases the pressure for IHS and tribal programs to compete for patients. There is no satisfactory way to predict at the moment how many Medicaid-eligible Indians may opt to receive all their care from one of the established health maintenance organizations rather than from IHS or tribal programs. This is of concern primarily to the urban programs but as SoonerCare spreads to involve the rural portions of the state, it will undoubtedly have greater impact.

Table 3. IHS Service Units in Oklahoma City Area

Ada	Haskell, Kansas	Pawnee	Talihina
Claremore	Holton, Kansas	Shawnee	Wewoka
Clinton	Lawton	Tahlequah	

Adapted from data of Oklahoma Area Office IHS

Table 4. Location of IHS and Tribally Operated Facilities in Oklahoma Area

Hospitals		Health Clinics and Centers		
IHS	Tribal	IHS	Tribal	Urban
Claremore	Talihina	Anadarko	Ardmore	Oklahoma City
Clinton	Okemah	Carnegie	Broken Bow	Tulsa
Lawton	Ada	Concho	Eufaula	Wichita
Tahlequah		Miami	Huga	Dallas
		Pawhuska	Jay	
		Pawnee	McAlester	
		Shawnee	Nowata	
		Watonga	Okemah	
		Wewoka	Salina	
		White Eagle	Sallisaw	
		Holton (Ks.)	Sapulpa	
		Lawrence (Ks.)	Stilwell	
			Stroud	
			Tishomingo	

Adapted from data of Oklahoma Area Office, IHS

Summary

There is a special relationship between tribes in the U.S. in which the sovereignty of tribes has been reaffirmed many times. In the course of treating with Indians, the federal government undertook solemn obligations to provide certain services to Indian people, including health care. Notwithstanding this relationship and the obligations of the federal government, Indians have a "dual entitlement" to programs, and programs cannot deny services to Indian people simply because there is an Indian health program financed by the federal government. The sovereign nature of tribes, the special government-to-government relationship with the federal government, the provision of services to Indian people by the federal government, the continuing responsibility for Indian services by the various states have all culminated in a situation made ideal for confusion, frustration, and conflict. In answer to the often-asked question, Why are there so many programs for Indian people in the state? it can be seen that there is, in fact, only one federal system of care for Indian people. It is an extremely complex one, arising from a series of historical and social contexts. Finally, as the revolution in health care delivery continues, with all its ramifications, the Indian population and its programs will have to be taken into account in whatever ultimately results from the changes in Oklahoma. It is hoped that this brief description of some of the major aspects of Indian health care both nationally and in Oklahoma will increase understanding of this important segment of the Oklahoma population.

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References

1. Trends in Indian Health—1995. IHS, USPHS, DHHS. Rockville, Md., 1995.
2. 24 Stat. 388 (1887).
3. Gibson AM. *Oklahoma—A History of Five Centuries*. Harlow Publ. Corp. Norman. 1965. pp 290 ff.
4. Rhoades ER. The University of Oklahoma College of Public Health and the American Indian—the Inaugural Dan Macer lecture. *J Okla State Med Assoc*. 1992;85:17-23.
5. Morrison SE. *Oxford History of the American People*. Chapter 28. Foreign affairs and removal of the Indians 1830-1838. Oxford University Press. New York. 1965;441-453.
6. Cohen FS. *Handbook of Federal Indian Law*. University of New Mexico Press, Albuquerque. [copyright date? —*Ed.*]
7. Rhoades ER, McGarvey L, Reyes L. *Report on Indian Health. Task Force Six*. American Indian Policy Review Commission. U.S. Govt. Printing Office, 1976.
8. 42 USC 2001 ff.
9. Rhoades ER, Reyes L, Buzzard GD. The Organization of Health Services for Indian People. *Public Health Rep*. 1987;102:352-356.
10. 25 USC 1601 ff.
11. Rhoades ER, Brenneman G, Santosham M. Native American Health. *Encyclopedia Brittanica Medical and Health Annual*. 1993.
12. 42 USC 36.32. ff.
13. 42 Stat. 208, C.115. 1921.
14. *Indian Health Care*. Congress of the United States. Office of Technology Assessment, Washington, DC. April 1986. (OTA-H-291).
15. 42 USC 36.12
16. 25 USC 450 ff.

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Poison Prevention for the Elderly

Lee McGoodwin, MS

Persons 60 years of age or older accounted for only about 3% of poison-center-related calls. However, this age group comprised more than 20% of poison-center-reported poisoning deaths in 1994. The physiological changes associated with the aging process that frequently alter the overall effects of a drug (or a poison) make this rapidly growing population group especially susceptible to both acute and chronic toxicity. The prevention of intentional and unintentional poisonings and misdosing of medications among the elderly requires new and imaginative approaches.

Historically, poison prevention efforts have focused mainly on the pediatric patient and on poison-proofing the home. This focus seems reasonable because approximately 54% of the more than 1.9 million toxic exposures reported to poison centers in 1994 involved persons younger than six years of age.[1] Fortunately, this age group only accounted for 3.4% of the reported fatalities in 1994.[1] However, while approximately 3% of these reported calls involved persons 60 years of age or older, the elderly accounted for more than 20% of poison center-reported poisoning deaths.[1] A Massachusetts Poison Center study discovered that persons more than 60 years of age had the same poisoning hospitalization rates as younger age groups, but corresponding poisoning death rates were as much as 2.6 times higher for the mature adult.[2] It is also likely that many toxic exposures or adverse drug reactions involving older persons are not reported to poison centers.

Although the elderly currently make up approximately 12% of the United States population, they consume more than 25% of all medications.[3] The typical ambulatory, elderly patient takes 4.5 prescribed medications and 3.4 over-the-counter preparations.[4,5] Those in nursing homes and intermediate care facilities are prescribed an average of eight drugs during a month.[6] America's elderly population is projected to increase to 23% by the year 2040.[7]

With so many older persons taking potent drugs, it is apparent why this is a rapidly growing high risk group for both chronic or acute intoxications. The most commonly used medications in the geriatric population include analgesics (salicylates and acetaminophen), anti-inflammatory drugs, gastrointestinal preparations, the cyclic antidepressants, theophylline, sedative-hypnotics including benzodiazepines, antihypertensives, and cardiovascular medications such as digitalis, calcium channel blockers, and beta blockers.[8] Residents in long-term care facilities receive a daily average of seven different medications. Laxatives, analgesics, neuroleptics, and sedative-hypnotics are the most commonly prescribed medications in long-term care facilities.[9] Benzodiazepines, antidepressants, and phenothiazines have all been associated with increases in injuries resulting from falls among this age group.[10] Elderly persons have higher rates of adverse drug reactions 2 to 3 times higher than younger age groups.[11] Drug-drug

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interactions are also common. In one nursing home study, as many as 42% of elderly patients were given several prescriptions which could have had important interactions.[12]

Iatrogenic mismedication accounts for many poisonings and adverse effects annually. In one West German study of 196 patients given medications, 12.2% had been prescribed wrong or high-risk drugs; among the 694 prescriptions dispensed, 4.2% were in error.[13] With up to 4.0 million patients in the United States with Alzheimer's or related conditions,[14] dementia or confusion may account for many instances of poisoning or mismedication. Incidentally, solvents, pesticides, and carbon monoxide are known causes of chronic psychorganic syndromes and peripheral neuropathies. Cleaning products, arts and crafts supplies such as ceramic glazes with lead, topical medications, rubbing alcohol, colognes, and plants are frequently implicated in ingestions of confused or institutionalized older patients.

As people age, their physiological handling of a drug may change so to render them more susceptible to its therapeutic effects as well as to its side-effects.

Poor vision may also result in accidental use of the wrong medications or mistaking of a non-potable for a food item.[15] Mislabeling or improper storage of substances in the medicine cabinet or pantry can easily result in accidental ingestions. Brushing teeth with muscle rubs, placing glue in the eye rather than an ophthalmic ointment, or drinking bleaches mistaken for water in a cup are common scenarios reported to the Oklahoma Poison Control Center. Frequently at night an elderly patient may poison himself by taking the wrong medicine off the bedside stand without bothering to turn on the light. Medication dosages may accidentally or mistakenly be doubled. Depression and self-harm are other under-recognized factors in elderly poisoning cases. In the 1994 survey of AAPCC, a large percentage of elderly poisoning deaths were documented suicides.[1]

Kinetics

Approximately 3 to 10% of all hospital admissions for elderly patients are attributed to adverse drug effects.[16] Advanced age, lower body weight, renal or hepatic insufficiency, and polypharmacy are all associated with an increased risk of adverse drug reactions and potential toxicity. Physiological changes associated with the aging process frequently alter the overall effects of a drug (or a poison) that are dependent on how the body manages the absorption, distribution, metabolism, and excretion of that agent. Aging itself causes changes in the compartment distribution of a drug, its plasma protein binding, the sensitivity of target organs, the vulnerability of non-target organs, and the drug's endogenous elimination.[17] Commonly these changes result in longer duration of action, greater or lesser responses to certain drugs, and increases in the number of adverse drug reactions or increases in the incidences of toxicity.[17]

Absorption

Despite age-related changes that reduce absorption of nutrients by active transport such as thiamine, iron, and calcium, no clinically significant decreases in drug absorption have been attributable to the normal aging process. Most drugs are passively absorbed so that even factors such as a 40% reduction in blood flow to the small intestine, a 30% decrease in mucosal surface area and general decrease in gastric acid production associated with normal aging do not effect absorption of most medications.[18] However, conditions that are more frequent in the elderly than in young persons, such as partial small bowel resections, various types of malabsorptive states, and the concomitant administration of antacids or anticholinergics, can significantly alter drug absorption.

Distribution

The duration of action of a drug depends on the volume of distribution, the metabolism, and the clearance of the drug. Elderly persons have a decreased lean body mass. The proportion of adipose tissue in males increases from 18% of body mass in young men to 36% in elderly males and from 36% in young women to 48% in elderly women. Due to a 10 to 15% decrease in total body water between 20 and 90 years[17,19] combined with this increase in total body fat, many drugs and toxins will have changed volumes of distribution as aging occurs, effecting their concentration at active receptor sites in target tissues and their storage and availability for metabolism and clearance. Water soluble drugs such as lithium and ethanol have a smaller volume of distribution that can result in an increased serum concentration and toxicity at lower dosages. Lipid soluble drugs and chemicals have a larger volume of distribution resulting in longer elimination half lives for certain pesticides, barbiturates, and drugs affecting the central nervous system. For example, the elderly are more susceptible to the narcotic analgesics due in part to increased peripheral compartment concentrations.[20] Due to an elderly patient's decreased lean body mass and subsequently decreased volume of distribution, a therapeutic dose of digoxin in a younger patient may produce a toxic reaction in the mature patient.

The extent of plasma protein binding affects the amount of a free drug available to susceptible

tissues as well as the amount available for renal clearance. Acidic drugs bind well to the albumin fraction of plasma proteins, whereas basic drugs bind to the alpha-1-acid glycoprotein fraction. While the concentration of alpha-1-glycoprotein rises with aging, the concentration of albumin in an 80-year-old is approximately 20% less than that in a 20-year-old.[21] Examples of drugs that have a greater than 50% increase in free fractions in the elderly include acetazolamide, diflusinal, naproxen, salicylate, and valproic acid.[17,21] Chronically ill, hospitalized, or institutionalized mature patients may have even greater decreases in plasma albumin. Drugs may compete for protein binding sites so a subsequently added drug may displace another drug from protein binding sites and result in toxicity. Theophylline, phenytoin, warfarin, and digoxin can have increased effects in these circumstances.

Excretion

As people age, their physiological handling of a drug may change so to render them more susceptible to its therapeutic effects as well as to its side-effects. The elderly have a reduction in renal function (a 10% fall in GFR for each decade past 50 years old[21]) and will clear more slowly those drugs or toxins that are primarily excreted through the kidneys. Dosage adjustments based on creatinine clearance are commonly made for aminoglycosides, vancomycin, lithium, digitalis, and procainamide. Due to the low therapeutic indices of these renally cleared drugs, closer pharmacokinetic monitoring of these drugs is important for patients of advanced age. Aging produces changes in liver function as well; the rate of blood flow through the liver declines from 1400 cc/min at 30 years old to 800 cc/min by age 75 years.[22] Patients with slowed liver function may be more susceptible to those agents with a large first pass effect (e.g., lidocaine, propranol). Decreased enzymatic oxidative reactions in the cytochrome P450 can result in longer duration of action for some drugs in older patients.[23,24] This is true especially for drugs producing active metabolites, such as alprazolam and diazepam.

Pharmacodynamics

The changed physiology of the elderly patient can increase susceptibility to the anticipated effects of a drug or toxin. These pharmacodynamic changes may be due to changes in receptor numbers, alterations in receptor binding, or changes in translation of receptor-initiated cellular response into a biochemical reaction. Increased receptor response has been reported in elderly using opiates, benzodiazepines,[25] or warfarin.[26] Increased autonomic instability might make older patients more susceptible to pressor side-effects of phenylpropanolamine.[27] Decreased adrenergic response results in less tachycardia when elderly patients receive isoproterenol and less bradycardia when beta blockers are used.[28] Changes in gut mucosa and local pH might explain the increased rates of gastric irritation and bleeding found in elderly patients treated with nonsteroidal anti-inflammatory medications.[29,30] The aging process seems to increase the sensitivity of the heart, bladder, bowel, and the central nervous system. Older patients clearly do not tolerate anticholinergic side-effects of drugs such as cyclic antidepressants or antihistamines well. The elderly have shown increased sensitivity to the cardiac and blood pressure effects of theophylline.[31,32]

Toxins should be ruled out in the elderly patient with confusion, seizures, coma, or the new onset of inexplicable signs and symptoms. Adverse drug reactions frequently produce symptoms such as nausea, loss of balance, change in bowel pattern, confusion, or sedation. A review of the patient's current medications may reveal combinations that are contraindicated or may synergistically interact.

Treatment

Principles of resuscitation and supportive care, decontamination, enhanced elimination, and antidotal therapy apply in the management of elderly poisonings. However, the use of ipecac may hold additional dangers for the elderly patient. One case report documents intracerebral hemorrhage, aspiration, and death after ipecac syrup treatment of a boric acid ingestion in an 84-year-old woman.[33] Gastric lavage and activated charcoal, under controlled circumstances, are preferred methods of decontamination.

Prevention

The prevention of intentional and unintentional poisonings and mismedication among the elderly requires new and imaginative approaches. Regulatory changes that require the use of large print and universal symbols and warnings on prescription labels designed for the elderly would be very desirable. A few drug companies plan OTC label changes in the future that will hopefully become a general trend These companies are voluntarily increasing print size, simplifying medical terminology, and highlighting important warnings for selected OTC drugs.

Education strategies should emphasize the need for communication between patient, his caretakers, the physician, the nurse, and the pharmacist. Simple drug information sheets given to patients

The prevention of intentional and unintentional poisonings and mismedication among the elderly requires new and imaginative approaches.

may be only marginally effective in increasing their knowledge about adverse drug effects and changing their behaviors.[34] However, a review by the physician or pharmacist of the patient's current medications, the possible drug-drug interactions, and adverse side effects may be much more effective and should be a standard of each visit.

Finally, 10% of the elderly population has symptoms of depression and 10 to 20% of those in acute or chronic care institutions carry the diagnosis of a major depressive disorder.[35] Depressed geriatric patients must be assessed as to their risk for suicide or intentional mismedication. Careful prescribing of potent medications in non-lethal total prescriptions with frequent follow-up and attention to social and psychiatric as well as medical concerns may help prevent intentional injuries in this high-risk population.

The Oklahoma Poison Control Center is staffed by licensed pharmacists and offers free statewide service to both laypersons and health professionals. As always, physicians are encouraged to call our center for any assistance needed with the management of acute and chronic toxic exposures to drugs or poisons. Often, poisonings can be more easily prevented than treated. Please actively promote patient awareness of potential hazards and encourage them to call the center for poison prevention information. This telephone service is available twenty-four hours a day and year round at 405-271-5454 in the greater Oklahoma City area and 1-800-522-4611 statewide. ◻

References

1. Litovitz TL, Felberg L, Soloway RA, Ford M, Geller F. 1994 Annual Report of the American Association of Poison Control Centers: Toxic Exposure Surveillance System. *Amer J Emerg Med* 1995; 13(5):551-597.
2. Woolf AD. unpublished data, *Massachusetts Poison Center*
3. Hecht A. Aspirin vs Acetaminophen. *FDA Consumer* 1983;17(1):20-22.
4. Darnell JC, Murray M, Martz B, Weinberger M. Medication use by ambulatory elderly: an in-home survey. *J Amer Geriatrics Soc* 1986;34:1-4
5. Hendriksen C, Lund E, Stromgard E. Intake of drugs among elderly people in a Danish municipality, Rodovre. *Acta Med Scand* 1983; 214:67-71
6. Beers M, Avory J, Soumera SB, Everitt DE, Sherman DS Salem S Psychoactive medication use in intermediate care facility residents. *JAMA* 1988;260:3016-3020.
7. Cessna CB, Landes A, Foster CD, editors. Growing Old in America: The Information Series on Current Topics: *Wyhe (TX) Information Plus*, 1990:2-69.
8. Hale WE, May FE, Marks RG, Stewart RB. Drug use in an ambulatory elderly poplutation:a five year update. *Drag Intell Clin Pharm* 1987;21:530-535.
9. Lamy PP Prescribing for the Elderly: *Littleton (MA) PSG Publishing* 1980;89-108.
10. Tinetti ME, Speechly M, Ginte SF. Risk factors for falls among elderly persons living in the community. *New Engl J Med* 1988;319: 1701-1706.
11. Chrischilles EA, Segan ET, Wallace RB. Self-reported adverse drug reactions and related resouce use:a study of community dwelling persons 65 years of age and older. *Ann Intern Med* 1992;117:634- 640.
12. Nolan L, O'Malley K. The need for a more rational approach to drug prescribing for elderly perople in nursing homes. *Age Aging* 1989;18:52-56.
13. Kruse W, Kohler J, Oster P, Schlierf G. Avoidable risks in the drug treatment of very old patients. *Dtsch Med Wochenschr* 1987;112:1486-1491.
14. Coughlin TA, Liu K Health care costs of older persons with cognitive impairment. *The Gerontologist* 1989;29:173-182.
15. Klein-Schwartz W, Oderda GM, Booze L. Posioning in the elderly. *J Amer Ger Society* 1983;31:195-199.
16. Lamy PP. Adverse drug effects. *Clin Geriatric Med* 1990 May; 6(2):293-307.
17. Montamat SC, Cusack BJ, Vestal RE. Management of drug therapy in the elderly. *New Engl J Med* 1989;321:303-309.
18. Cusack BJ,Vestal RE. Clinical Pharmacology: Special Considerations in the elderly. *The Practice of Geriatrics* 1986: 115-134.
19. Shock NW, Watkins DM, Yiengst MJ, Norris AH, Gaffney GW. Greger man RI, Falzone JA. Age differences in the water content of the body as related to basal oxygen consumption in males. *J Gerontol* 1963;18:1-6.
20. Owen JA,Sitar DS, Beger L, Grownell L, Duke PC, Mitenko PA. Age related morphine kinetics. *Clin Pharmacokin* 1983;34:364-368.
21. Wallace SM, Verbeecl RK. Plasma protein binding of drugs in the elderly. *Clin Pharmacokin* 1987; 12:111-112.
22. Woodhouse KW, Wynne H. The phramacokinetics of non-steroidal antiinflammatory drugs in the elderly. *Clin Pharmacokin* 1987;12:111-112.
23. O'Malley K, Crooks, J, Duke E, Stevenson IH. Effect of age and sex on human drug metabolism. *BMJ* 1971; 3:607-609.
24. Vestal RE, Norris AH, Tubin JD, Cohen BH, Shock NW, Andres R. Antipyrine metabolism in man:influence of age, alcohol, caffeine, and smoking. *Clin Pharmacol Ther* 1975; 18: 425-432.
25. Castleden CM, George CF, Marcer D, Hallert C. Increased sensitivity to nitrazepam in old age. *BMJ* 1977; 1:10-12.
26. Shepherd AM, Hewick DS, Moreland TA, Stevenson IH Age as a determinant of sensitivity to warfarin. *Br J Clin Pharmacol* 1977; 4:315-320.
27. Biaggioni I,Onrot J, Stewart CK, Robertson D. The potent pressor effects of phenylpropanolamine in patients with autonomic impairment. *JAMA* 1987;258:236-239.
28. Vestal RE, Wood, AJ, Shand DG. Reduced b-adrenoceptor sensitivity in the elderly. *Clin Pharmacol Ther* 1979; 26:181-186.
29. Caradoc-Davis TH. Nonsteroidal anti-inflammatory drugs and arthritis and gastrointestinal bleeding in elderly in-patients. *Age Ageing* 1984; 13:295-298.
30. Walt R, Katschinski B, Logan R. Ashley J, Langman M. Rising frequency of ulcer perforation in elderly people in the United Kingdom. *Lancet* 1986;1:489-492.
31. Phung ND. *Immunol Allergy Prac* 1986;8:18-20.
32. Shannon M. *Abstract presented at the 1989 AAPCC meetings, Atlanta.*
33. Klein-Schwartz W: *Ann Emerg Med* 1984;13:1152-1154.
34. Johnson MW, Mitch WE, Sherwood J, Lopes, L, Schmidt A, Hartley H. The impact of a drug information sheet on the understanding and attitude of patients about drugs. *JAMA* 1986;256:2722-2724.
35. Blazer D., Current Concepts: Depression in the elderly. *New Engl J Med* 1989;320:164-166.

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OKLAHOMA CENTRALIZED VERIFICATION ORGANIZATION
A Way Out of the Paperwork Nightmare

By Michelle Seba, OCVO Program Director

There is a way out of the credentialing nightmare that has inundated the physician's office. The centralized system developed by Tulsa County Medical Society (TCMS) has successfully operated and experienced dramatic growth over the last eight years. With larger managed care plans and more hospitals now using this system, physicians across the state can look forward to being part of this program.

The TCMS service, Oklahoma Centralized Verification Organization, or OCVO, developed its programs in response to physicians asking for help to reduce the redundancy of paperwork necessary to become, or continue to be, a part of various health care organizations (HCOs).

Centralized Verification Organizations (CVOs) are encouraged by the AMA and recognized as adding to the efficiency of the credentialing process. The Oklahoma State Medical Association has officially recognized and endorsed Oklahoma's CVO as one of the leaders in the industry.

There are basic consistencies among hospitals and managed care organizations regarding what information needs to be gathered during the credentialing process. We asked medical directors, provider relations managers, and medical staff coordinators what must be included on the applications to meet their accreditation, license, bylaws, and legal requirements. The answer was *one* comprehensive *initial application* and *one* comprehensive *recredentialing* (reappointment) application that met the needs of all clients. Some hospitals required a *written request for an application* to be submitted by the physician, and for this purpose a very brief third form (one page), the "Pre-App," was developed.

Now, when a physician applies to one or more HCOs, the application is completed on paper or disk and returned to OCVO. We verify the application and provide a complete file to the HCO(s). When the physician needs to apply to another HCO, the application is sent to the physician to review, make any changes that have occurred since it was last submitted, and return it to OCVO. There will always be HCO-specific papers to complete, such as a privilege request form or affirmation statement, but the greatest portion of the physician information is already handled—a real relief for office personnel trying to prepare credentialing paperwork among all their other duties.

Confidentiality is the highest priority and OCVO has stringent guidelines. The HCO must be contracted with OCVO to receive information about a physician *and* the physician must sign a release for us to provide that information. Physician files are locked and secured, and only authorized OCVO personnel have access.

In addition to centralized applications and verifications, OCVO collects documents from the physician that are required by the HCOs.

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Copies of medical licenses, certificates of malpractice insurance, DEA and BNDD registrations are all required to be current and each of the physician's HCOs must have a copy. OCVO collects the document *once* from the physician at the time of expiration, and forwards a copy to each HCO client to which the physician is a member. This saves each HCO from having to send a letter of request to each physician, as well as the physician having to respond separately to each request.

The centralized recredentialing program is timed according to the physician's birth month, odd or even number year. For instance, a physician born in October 1952 would be scheduled to be recredentialed in October 1996, and not again until October 1998. Each HCO contracted to participate in this program eliminates the need of the physician to complete a different recredentialing application for each organization. Physicians who are members of several hospitals and managed care plans quickly benefit. The recredentialing packet contains *one* application and the HCO-specific form(s) (i.e., privilege request form) for each organization. Because it involves several HCOs and their specific paperwork, it's a little more lengthy *at the time,* but does not have to be repeated for two years.

OCVO is planning to have the ability to complete non-client credentialing forms for physicians. The physician that has been credentialed by OCVO would simply submit the form to us, and the historical data would be electronically downloaded onto the form. Watch for the announcement regarding implementation of this service.

Other services now under consideration to meet the accreditation standards for managed care organizations are centralized safety, medical records, and other on-site reviews.

OCVO is open to developing solutions to common needs of physicians and health care organizations and would be glad to hear from you. Only by working together to keep *organized medicine* in control of these necessary processes will physicians be able to continue to deliver their product—high-quality medical care—at the lowest possible cost. You may reach us at 1-800-340-6070 or 918-743-0381. Our address is 2021 South Lewis, Suite 560, Tulsa, Oklahoma 74104-5723.

The Author

Michelle Seba, CMSC, is program manager for the Oklahoma Centralized Verification Organization.

HEALTH DEPARTMENT

Osteoporosis: It is a fact of life but both preventable and treatable

Women, today, will live one third of lives after menopause, greatly increasing their risk of osteoporosis. A women's risk of developing a hip fracture is equal to the combined risk of developing breast, uterine, and ovarian cancer; and 50% of all Oklahoma women fifty years or older will have an experience with a fracture caused by osteoporosis. Of this group who experience a fracture, 25% will be so functionally impaired as to be admitted for long-term care. In 1994, Oklahoma Medicare expenditures for inpatient care related to fractures and osteoporosis were over 11 million dollars. This common metabolic bone disorder is characterized by a reduction in bone mass that endangers the biomechanical integrity of the skeleton, leading to bone fragility and a consequent fracture risk.

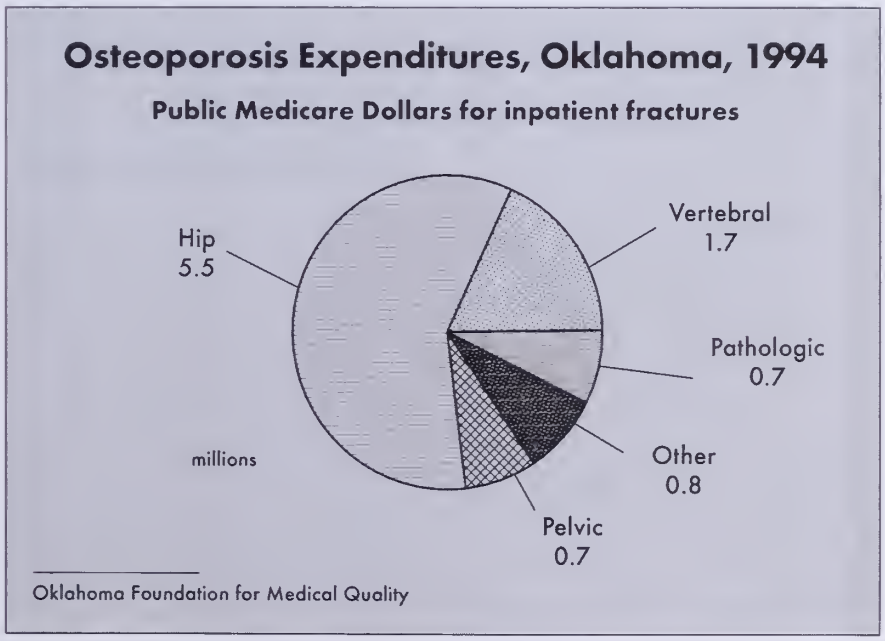
The burden for the person is probably not great until the fracture occurs. Long bone fractures, if set properly and healed normally, are not painful. Hip fractures are normally seen in the old, whereas, spinal fractures are seen in the middle-aged. Fractures of the spine heal with reversible displacement and decrease the quality of life and productivity of the person. Spinal fractures distort the skeletal anatomy and collapse truncal height. This causes reduction to the thoracic and abdominal cavities, and embarrasses the action of the heart, lungs, stomach, and bladder, causing breathing problems, hiatal hernia, and urinary incontinence. The financial burden in Oklahoma is expect to rise because fracture rates increase with age, and our aging population is growing rapidly. In addition to the financial burden attributed to this disease, osteoporosis has a profound effect on the quality of life of older individuals. The older adult with osteoporosis typically experiences reduced mobility, pain, loss of independence, and psychological distress with the postural disfigurement and fear of additional falls and fractures.

Other startling statistics about Oklahoma women, osteoporosis, and fractures include; 15% of women who died of accidental falls associated with osteoporosis had premature and preventable osteoporosis, and 20% of persons who have a hip fracture associated with osteoporosis will die within the year. Each year some 15,000 fractures will occur among Oklahoma women due to osteoporosis. As a disease, osteoporosis is too costly not to attempt preventive strategies throughout the life cycle.

Good bones that should last a lifetime begin in childhood. Peak bone mass is reached by age 30, decreases slowly at first, and then more quickly after climacteric in both sexes. The clinical outcome of osteoporosis is fracture, but the timing of this catastrophe depends on chance and trauma.

Strategies for preventing bone mass loss include exercise, a diet with recommended calcium levels, calcium sup-

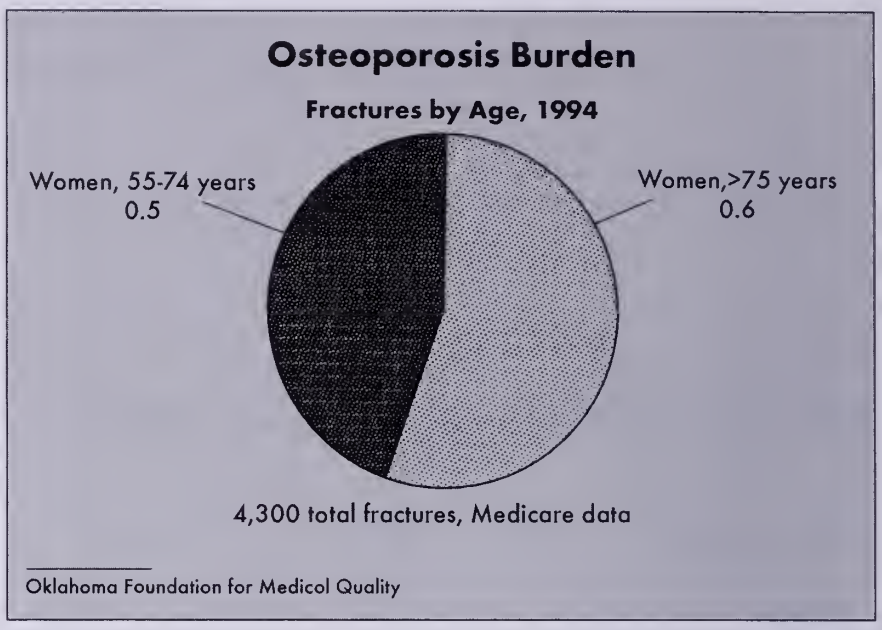
(continued)



plements, and hormone replacement for women after menopause.

♦ Primary prevention activities can be conducted with children, youth, and young adults. Children and young adults can receive educational opportunities on the benefits of exercise and diet and the hazards of smoking and alcohol consumption, as well as practicing these good health habits. Young women during childbearing years should receive supplemental calcium if diets are deficient; 1,600 mg/day is recommended. Parents should be counseled on the calcium levels needed by their children; 1,200 mg/day is recommended. Encouraging children and young adults to participate in sports and physical activities will sustain bone mass. When counseling on dietary factors, physicians should encourage the family to utilize skim or 1% milk, thereby lowering the fat but still getting the calcium that is needed. Young adults should be encouraged to continue physical exercise and commit to no smoking and drinking in moderation. Diets deficient in calcium should be augmented with a calcium supplement.

♦ Secondary prevention activities can be conducted with middle-aged and older adults. Emphasis in these age groups should be on specific forms of exercise, adequate calcium supplements (1,000 mg/day), and targeted bone mass screening. Targeted bone mass screening could be conducted on those women who meet the risk profile. The effectiveness and efficacy of mass screening has not been proven. Menopausal women should be counseled on the benefits of hormone replacement therapy. The longer the hormonal effect, the less the bone mass loss will be. Hormone replacement therapy can stop the bone loss at any age, but the more years after the menopause, the less the effect will be. Women should be counseled on the combined effects of adequate exercise, calcium supplements, and hormone replacement therapy. The ideal exercise program maximizes bone response and increases muscle strength, mass, and power. Exercises requiring full support of the body weight such as tennis, walking, weight lifting, and gymnastics provide the increase in muscle strength, mass, and power.



♦ Tertiary prevention activities can be conducted with middle-aged and older adults who have osteoporosis. Targeted bone density testing should be repeated after a course of treatment with the new osteoporosis bone mass repair drug, exercise, and calcium supplements. Educational opportunities on fall prevention should be given to the older adult. Ninety percent of all older adults suffer falls, and of this group some 5% suffer hip fractures. Encouraging older adults to exercise, with attention to balance, endurance, and stretching exercises, not only helps reduce falls, but aids in their continued independence.

National Osteoporosis Awareness week is May 12-18, 1996, and the National Osteoporosis Foundation and the American College of Obstetricians and Gynecologists have excellent materials to assist in the education of patients and families.

For more information, please contact Adeline Yerkes, RN, MPH, Chief, Chronic Disease Service, Oklahoma State Department of Health at 405-271-4072.

HEALTH DEPARTMENT

Chlamydia trachomatis is too costly to ignore

In 1995, 5,060 cases of *Chlamydia trachomatis* were reported to the Oklahoma State Department of Health (OSDH). Of these cases, 46% (2,322) were diagnosed in ages 15 through 19 and 34% (1,744) were diagnosed in ages 20 through 24. Females represented 88% (4,465) of reported cases, with 12% (595) in males. Racial and ethnic breakdowns of reported cases are as follows: 45% (2,345) white, 34% (1,716) black, 12% (618) American Indian, 5% (223) Hispanic, 1% (38) Asian, and 2% (120) unknown.

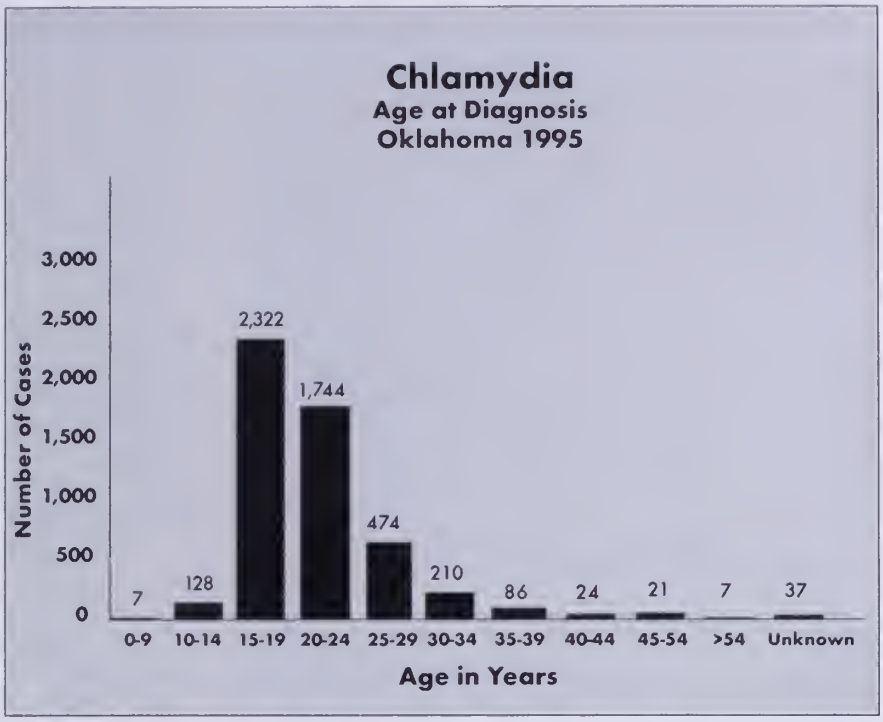
Historically, chlamydia testing has been available on a limited basis, with a majority of chlamydia infections diagnosed and treated as non-gonococcal urethritis or mucopurulent cervicitis. Chlamydia screening services in Oklahoma were piloted in December 1994 by OSDH at 23 county health departments; as of March 1996, 37 county health department sites participate in screening. During 1995, 24,287 specimens were collected for chlamydia screening. Of these, 1,709 positives were detected (7.0 positivity rate). Centers for Disease

Control and Prevention (CDC) estimates every $1 spent on screening and treatment saves $12 which would be spent on complications.

Infections caused by *Chlamydia trachomatis* are recognized by CDC as being among the most prevalent and perhaps the most damaging sexually transmitted diseases seen in the United States today. The CDC estimates over 4 million new infections occur each year with approximately $2.4 billion required to treat associated complications. Knowledge of the incidence or prevalence of genital infection is limited since many areas of the country do not screen for disease. Asymptomatic cases often go untreated and therefore unreported.

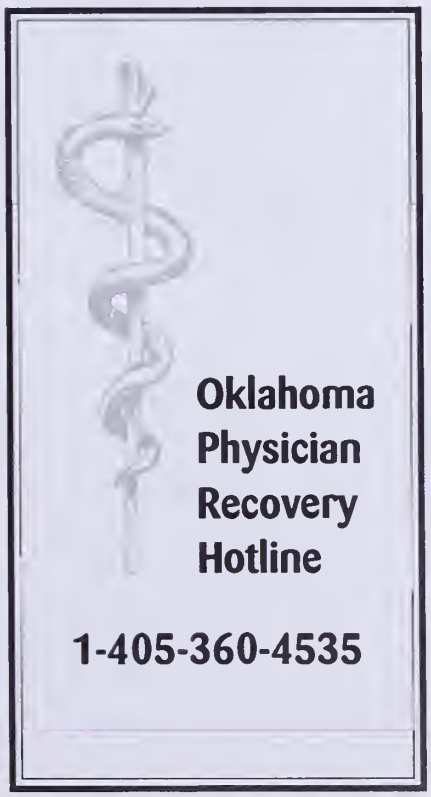
Females, infants, and males are affected by this disease. Females infected with chlamydia are at increased risk for adverse reproductive consequences they are often asymptomatic. Symptoms of untreated infection include mucopurulent cervicitis (MPC), urethritis, and acute pelvic inflammatory disease (PID). *Chlamydia trachomatis* has been identified in 30 to 50% of women who exhibit MPC exudate and from 50% of women with PID. Chlamydia accounts for one-quarter to one-half of the one million recognized cases of PID of the United States each year. These infections contribute significantly to the increasing number of women experiencing ectopic pregnancies or involuntary infertility. Early detection and treatment of chlamydia infections will have a major impact on preventable infertility.

Chlamydia is also responsible for maternal and infant infections during pregnancy and following delivery. Every year nearly 155,000 infants are born in the U.S. to women with chlamydia. These infants are exposed during birth by contact with infected cervicovaginal secretions; 18% to 50% may develop conjunctivitis 1 to 3 weeks after birth. Three percent to 18% may develop chlamydial pneumonia or bronchiolitis between 1 and 4 months of age. Chlamydia is the most common cause of neonatal eye infections and of afebrile interstitial pneumonia in infants under six months of age. Early detection and treatment of the mother is essential to stopping infections in their babies.



Chlamydia-associated syndromes common in men are nongonococcal urethritis (NGU) and acute epididymo-orchitis. *Chlamydia trachomatis* causes approximately 50% of NGU cases and approximately 50% of acute epididymitis cases seen yearly in the United States. NGU is a sexually transmitted disease (STD) with an incidence estimated to be 2.5 times greater than gonococcal urethritis. The majority of men with chlamydial infections of the urethra are asymptomatic and may not seek treatment, thus furthering transmission.

To reduce the morbidity and subsequent complications associated with *Chlamydia trachomatis* infection in the United States, effective control and prevention strategies must be implemented. Selective screening to detect asymptomatic infection is an essential component of all control programs. Without effective screening programs, women will continue to become infertile and to seek expensive surgery; ectopic pregnancies will occur and endanger mothers' lives; and newborns will be at increased risk for exposure and greater chance of developing pneumonia and eye infections.



Deaths

Carl Archie Barclay, MD
1922-1996

Dr. Carl A. Barclay, Sr., a Life Member of the Oklahoma State Medical Association since 1992, died March 21, 1996, in Oklahoma City. Dr. Barclay was born in Nanticoke, Md. In 1947 he was graduated from the Howard University School of Medicine. He moved to Oklahoma City in 1948 after completing an internship at Homer G. Phillips Hospital in St. Louis. He worked as a physician for the Oklahoma City Public School System until 1959 and maintained a private general practice from 1951 until 1979. From 1971 to 1991, Dr. Barclay was the physician at the Guthrie Job Corps Center.

Thomas Dewey Howard, MD
1922-1996

Thomas D. Howard, MD, a native of Picher, Okla., and 1948 graduate of the University of Oklahoma School of Medicine, died April 14, 1996. Dr. Howard had a general practice in Idabel. He served on active duty with the U.S. Air Force in 1953 and 1954, attaining the rank of captain.

Erma Ossip Johnson, MD
1908-1996

OSMA Life Member E. Ossip Johnson, MD, died April 3, 1996, in Tulsa. An obstetrician-gynecologist, Dr. Johnson was born in West Plains, Mo., and his family moved to Broken Arrow in 1910. He was graduated from the OU School of Medicine in 1934 and completed his residency at the Women's Clinic at Johns Hopkins University. He opened his practice in 1937. He is a past president of the Tulsa County Medical Society and was named Doctor of the Year by the TCMS Auxiliary (now Alliance).

John Walker Johnson, Jr., MD
1927-1996

Dr. John W. "Buddy" Johnson, a native of Shawnee, died at his home on March 13, 1996. The Johnson family moved to Shawnee from Arkansas 1890 and Johnson was a third generation resident. After a two-year stint with the Merchant Marines, he completed his education and was graduated from the OU School of Medicine in 1954, one of the top five stu-

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dents in his class. A general practitioner, he was named Doctor of the Year by Mission Hill Memorial Hospital in 1987 and recently by the Pottawatomie County Medical Society Alliance.

Joseph Jules Maril, MD
1912-1996

OSMA Life Member Joseph J. Maril, MD, died March 16, 1996, in Oklahoma City. He was born in Chicago in 1912 and was graduated from high school in Oklahoma City. In 1936 he earned his medical degree from the University of Oklahoma School of Medicine. After serving in China and Burma during World War II and attaining the rank of lieutenant colonel, he returned to practice general medicine in Oklahoma City for fifty years.

Jane Self, MD
1936-1996

Tulsa native Jane Self, MD, died on March 30, 1996. Dr. Self, a 1961 graduate of the OU School of Medicine, did postgraduate work at St. John's Hospital, Tulsa ('62-'63); Minneapolis VA Hospital '64-'64); and Ancker Hospital, St. Paul, Minn. ('64-'65). She had a private practice in internal medicine and hematology-oncology in Tulsa and was clinical professor of medicine at the OU Medical School, Tulsa division. In 1977 Dr. Self was appointed by Governor David Boren to the Oklahoma Cancer Center, Inc., Board of Trustees. J

Classifieds

Classified ads are 50 cents a word, with a minimum of $25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

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In Memoriam

1995

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Othal Blair Cunnyngham, MD ..... March 14
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William Gerald Rogers, MD ..... March 21
Charles Wesley Letcher, MD ..... March 26
John Frederick Bolene, MD ..... March 27
John B. Miles, MD ..... March 31
Elvus Jene Allgood, MD ..... May 6
Wiley T. McCollum, MD ..... May 13
Gerald Leon Honick, MD ..... May 24
William G. Husband, Jr., MD ..... May 25
Henry Washington Harris, MD ..... June 2
Joan Kazanjian Leavitt, MD ..... June 13
Lucien Michael Pascucci, MD ..... July 2
Glen M. Floyd, MD ..... July 8
Marvin Homer Hird, MD ..... July 18
Yale Eugene Parkhurst, MD ..... July 27
Joe Leslie Duer, MD ..... August 25
William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Mollison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muehmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Theodore Sherman Williams, MD ..... February 22
John Walker Johnson, Jr., MD ..... March 13
Joseph Jules Maril, MD ..... March 16
Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3

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Why Should We Be Concerned?

At AMAA meetings and Confluence I and II, physician spouses are educated about the number one health problem—violence. In October, I was fortunate to attend the kick-off of SAVE (Stop American's Violence Everywhere) Today. We heard powerful testimonials from a woman who had been abused, sought out a different lifestyle, and now has set up an abuse shelter in her hometown. What amazed me was the number of physician spouses who stood up when asked, "How many of you have been abused by a parent, former spouse, or current spouse?" Over one-third of those in the room stood up! One lady talked about how *no one* in the Emergency Room ever asked her how she acquired her bruises and broken bones. The Alliance across Oklahoma and America dedicate one day of the year to raising awareness of ways people can solve violence problems in their own communities. Held on the second Wednesday in October, SAVE Today premiered on October 11, 1995. The first annual event was celebrated across the country with school pledges of "No violence" by students of all ages, educational and awareness programs for parents and physicians, events to collect needed items for abuse shelters, candlelight vigils, and other efforts to remember victims of violence, and hundreds of public SAVE Today proclamations by national, state, and local officials. Dr. Robert McAfee, a past president of the AMA, is the national SAVE Today spokesperson.

Test *your* knowledge on violence. The answers are at the end of the article.

1. What percentage of female homicide victims are killed by their partners? (a) 10% (b) 33% (c) 50%
2. What is the total annual amount of medical expenses that results from domestic violence? (a) $1 billion (b) $2 billion (c) $5 billion
3. Family violence mostly occurs in lower socioeconomic groups. True or False?
4. Between 1984 and 1991, the number of juveniles aged 14 to 17 who were victims of homicide nearly doubled. True or False?
5. Between 1950 and 1990, the rate of adolescence suicide doubled. True or False?
6. What is the leading cause of death for people 10 to 34 years of age? (a) AIDS (b) motor vehicle accidents (c) firearm-related injuries
7. What is the leading cause of injury for women aged 15 to 34 years of age? (a) motor vehicle accidents (b) domestic violence (c) firearm accidents
8. Children who are abused often become abusers themselves. True or False?
9. The U.S. murder rate of children is twice that of France. True or False?
10. In America, a woman is abused every (a) 12 seconds (b) 30 seconds (c) minute

Information for this article obtained from AMAA family violence materials, SAVE materials, Center for Substance Abuse Prevention, 1993, and SODA.

Did you know?...

- The average age when most children start drinking is 11.
- More than 3 million teens are classified as alcoholics.
- One of 6 students will be chemically dependent as an adult.
- One of every four children is affected by a chemically dependent person in their family.
- After income taxes, the next greatest source of income to the Federal Government is alcohol taxes.
- The average age of youngsters in chemically dependent treatment facilities is 15.
- The U.S. consumes 60% of the illicit drugs in the world.
- The average child will see alcohol consumed on TV 100,000 times before reaching legal drinking age.
- Nearly 10,000 teenage/drug related deaths occur each year.
- Fifty youth under the age of 20 die from a drinking/driving related accident each day.
- 60% of teens who complete suicide are involved with alcohol or drugs.
- An estimated 375,000 alcohol/drug affected babies are born each year.
- Over 75% of adolescent deaths are a result of drug violence.
- Alcohol is present in more than 50% of all incidents of domestic violence.

A look in the daily newspaper tells most people that family violence is a problem. Yet most are not really aware of the toll it takes on the lives of those who are involved as well as on the community. What is needed is education to make people aware that family violence is a community problem that affects everyone. Education efforts can include:

- Developing programs to make people aware of the incidence of family violence and how they can be involved in prevention and in support for victims
- Developing programs to make people aware of the problem in their local communities and what they can do to help prevent the problem
- Developing programs for school personnel on the signs of family violence in children and how they can help the victims
- Sponsoring programs for children to make then aware of sexual abuse

My theme this year is YES, WE CAN! Whatever the method, promoting awareness of the problem—and what can be done to help the victims is one very important step in helping to prevent family violence. The County Alliances of Oklahoma are concerned about violence and will be saying—YES, WE CAN work together toward a healthier Oklahoma.

—Barbara Jett,
1996-97 OSMAA President

Answers: (1) c; (2) c; (3) F. Family violence cuts across economic, racial, ethnic, age, sex, and other barriers. (4) F. The rate tripled; (5) F. The rate quadrupled. (6) c; (7) b; (8) T; (9) F. In the U.S. there are 15.3 murders per 100,000 children, compared to .7 in France. (10) a

THE LAST WORD

■ **The University of Oklahoma Medical Alumni Association** named several special award winners at its annual dinner in Tulsa, April 26. The dinner was held during the Annual Meeting of the Oklahoma State Medical Association's House of Delegates. The honorees were Dr. Mary Anne McCaffree and Dr. James D. Funnell. Named Physician of the Year–Academic Medicine, Dr. McCaffree was graduated from the OU College of Medicine in 1971. She is vice-president of the OSMA and co-director of the Infantile Apnea Diagnostic Center at Children's Hospital in Oklahoma City. Dr. Funnell, Physician of the Year–Private Practice, is a 1960 graduate of the university. He has an obstetrics-gynecology practice in Oklahoma City, is president of the board of directors of Mercy Health Center, and is a past OSMA president.

■ **The OSMA Alliance has announced its slate of officers** for 1996-97. Assisting President Barbara Jett, Oklahoma City, will be President-Elect Doris Edge, Norman; First Vice-President Diane Cooke, Oklahoma City; Vice-President of New Alliance Development Linda Stewart, Edmond; Vice-President of M-A-Ls Linda Ruefer, Muskogee; Vice-President of RP/MSS Mary Hoff, Tulsa; Recording Secretary Linda Leemaster, Norman; Treasurer Mary Robideaux, Oklahoma City; and Treasurer-Elect Abby King, Marlow.

■ **Peggy J. Wisdom, MD, associate professor of neurology** at the University of Oklahoma College of Medicine, has been named the recipient of the 13th annual Stanton L. Young Master Teacher Award. The award was presented at a dinner April 16 in Oklahoma City. The award was established in 1983 by Oklahoma City businessman and philanthropist Stanton L. Young. It is presented annually to a faculty member in the OU College of Medicine who demonstrates the ability to serve as a truly inspiring teacher and as one who exemplifies professional and personal excellence. Nominations for the award are made by medical students from the college's honor society, from the Medical Student council, and class officers, as well as from chief residents and the Faculty Board. The $10,000 award is one of the largest in the nation given for medical teaching excellence.

Among her many accomplishments, Dr. Wisdom established and supervised development of the Brain Injury Rehabilitation Program at the O'Donoghue Rehabilitation Institute. She is also primarily responsible for establishing the Comprehensive Oklahoma Program for Epilepsy. Among her other awards are the 1989 Neurologist Award for Most Outstanding Teaching from the OU Department of Neurology, and the James F. Hammarsten Physicians of Excellence Award.

■ **Gordon H. Deckert, MD, was recently given special** recognition by the National Board of Medical Examiners for "exemplary service" over the past 25 years. The board is responsible for developing and administering the United States Medical Licensing Examination, which all physicians, regardless of specialty, must pass in order to practice medicine in this country. The David Ross Boyd Professor at the University of Oklahoma is only the sixth person this century to receive the board's highest honor, the Distinguished Service Award. Dr. Deckert also announced that he will retire from the University of Oklahoma effective September 1, 1996. He will become president of the Oklahoma Board of Health on July 1.

■ **The Special Services Division of the Oklahoma State** Department of Health (OSDH) has installed a special 24-hour, toll-free telephone number for complaints about nursing homes, home care, and other health care facilities in the state. The number is 1-800-747-8419. Oklahoma Commissioner of Health Jerry R. Nida, MD, said the number should be used by the public to make complaints about nursing facilities, residential care facilities, adult day care centers, and facilities providing services for the developmentally disabled, as well as complaints about certified nurse's aides. Callers will receive instructions on how to register a complaint.

■ **The OSMA will begin using a new address this month,** in accordance with instructions from the city planning commission (street signs in the area were changed several years ago as an aid to emergency vehicles). The changeover will occur gradually, as existing supplies of printed materials are exhausted. The new address is: Oklahoma State Medical Association, 601 West I-44 Service Road, Oklahoma City, OK 73118-6073.

■ **Carole A. Smith, Executive Director of the Oklahoma** Board of Medical Licensure and Supervision, has been named recipient of the Special Recognition Award by the Federation of State Medical Boards of the United States. The award is given only as warranted for particularly outstanding contributions and has been presented only once before. Among other things, Ms. Smith was commended for her work to facilitate public access to the medical board, extending office hours, computerizing board records, and developing an alternative dispute resolution program.

■ **The American Medical Association's Organized Medi**cal Staff Section (AMA-OMSS) will hold its 27th Assembly Meeting June 20-24 at the Chicago Marriott Hotel. Highlights of the meeting will include an information exchange, which builds on the December 1995 program theme "Creating the Future and Getting There First." An education program entitled "Keys to Influencing Physician Performance and Developing Successful Clinical Pathways" will be presented. The meeting has been accredited by the AMA for up to 3 hours in Category I of the Physician's Recogniton Award. For more information, call 1-800-AMA-3211 and ask for the AMA's Department of Organized Medical Staff Services. J

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JOURNAL

OKLAHOMA STATE MEDICAL ASSOCIATION

JUNE 1996 VOL. 89, NO. 6

EDITORIAL
Whose Home Health Care? 193
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE
PLICO—Our Insurance Company 195
D.L. Harper, Tulsa

SPECIAL
Health Maintenance Organizations in Oklahoma 197
E.N. Brandt, Jr; R.W. Broyles; D. Falcone, PhD; Oklahoma City

G. Rainey Williams, MD: The Importance of Doing It Right 200
R. Green, Oklahoma City

SCIENTIFIC
Successful Urgent Cerclage in a Quadruplet Gestation 211
S.D. Haraway; A.H. Schipul, Jr; J.S. Thomas; W.F. Rayburn; Oklahoma City

NEWS
Delegates make decisions on 39 resolutions, 215... OSMA web site debuts, 215... Trustees name Life Members, 216... Ballot count posted, 218...

DEPARTMENTS
Health Department, 219... In Memoriam, 220... Classifieds, 220... Instructions for Authors, 224... The Last Word, 226

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AIR FORCE

Whose Home Health Care?

In the ordinary evolution of government programs, all eventually come to a time when serious doubts arise about their cost versus their value, or, in the vernacular, the cost-benefit ratio. Some government programs last for several generations, most persist well beyond the time of efficient function, and all must sometime re-justify their existence. This it is with home health care, which has rather soon come into the public spotlight of critical scrutiny.

As a program, home health care paid by government funds is a neonate still encased in vernix caseosa.

But, however young and tender, home health care has now resurfaced to stage center as a subject of inquiry by the budget hawks of the government, and recent media reports have floated the astonishing figure of 75% unnecessary utilization of these services—according to governmental definitions of medical necessity. Such a projection by government sources suggests an extremely poor prognosis for the continuation of the program in its present form.

In so far as we ordinary citizens can understand the government perspective, home health care was conceived as a measure to interdict rising hospital costs in the Medicare program, supposedly by encouraging the earlier discharge of hospitalized patients to non-physician caretakers such as nurses and physical therapists. But in a classical episode of legislative ineptitude, the home health care compensation rates for these ancillary practitioners were set considerably higher than the corresponding service fees paid to physicians, and at the same time the medical decision-making was diffused and compromised and compromised by bureaucratic regulations.

Thus a program was implanted that statistically shortened hospital stays by one of two days—at a cost to the government of several months of well-paid home visits by nurses and a variety of therapists who have absolutely no financial interest in ending the series of visits merely because the patient recovers. And many patients want to experience all of the home visits the statutes allow.

It is now timely for an OSMA and AMA physician initiative to approach the government for a revision of the home health care program.

The medical profession should respectfully insist that medical necessity determinations be removed from statisticians and administrators and be reposited in the mutual control of the patient and the physician. Government payments to physician and ancillary practitioner should be changed to reflect the realities of the marketplace and the complexity of the needed decisions. All government payments should go to the patient for transmittal to the nurse of therapist.

Home health care could become a useful program if its neonatal defects are rationally addressed and medical necessity determinations revised.

Ray V. McIntyre, M.D.

An editorial is a column of personal opinion that may or may not reflect the official position of the OSMA.

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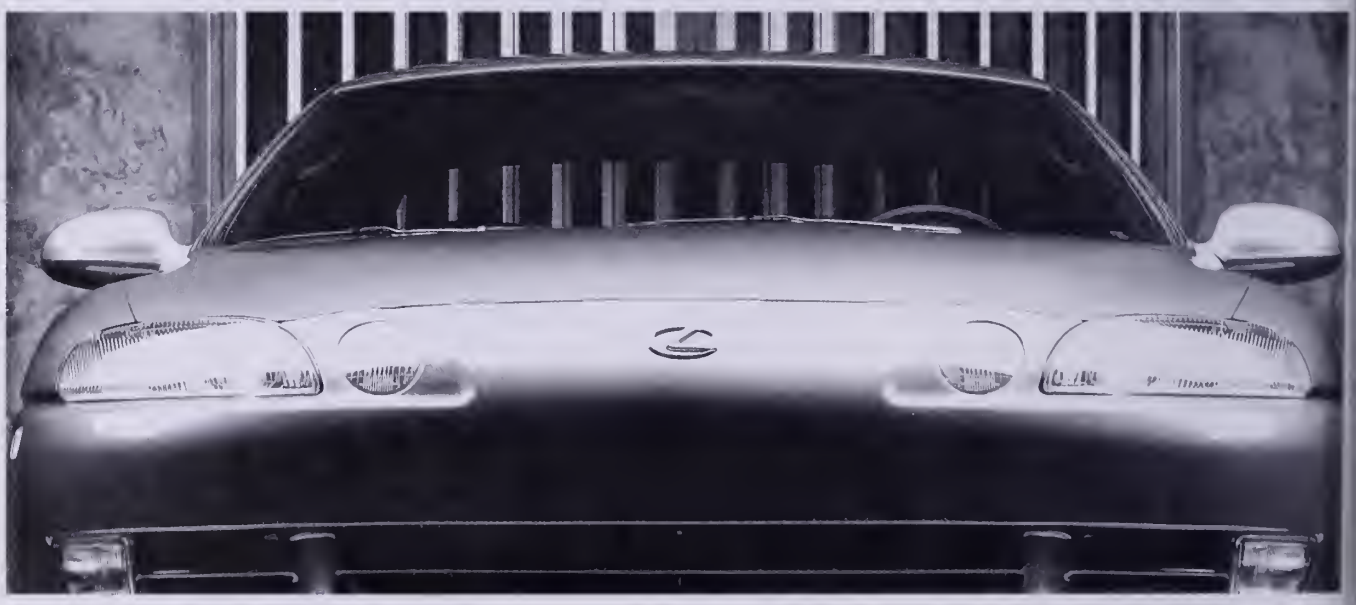

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PLICO—Our Insurance Company

We have had questions raised during the past year concerning the operation and policies of our insurance company, PLICO Some of these questions were legitimate inquiries from OSMA members and deserved thoughtful response. Some may have been motivated by considerations not in the physicians' best interest. I want to add my voice, as OSMA president, to those supporting PLICO.

As has been mentioned, we of the OSMA collectively own PLICO, a $150 million dollar asset. All of PLICO's directors and officers are physicians except for the executive director of the OSMA. All members of the PLICO board are elected by the OSMA House of Delegates. We are in complete control of *our* insurance company.

I believe that multiple communications form the PLICO board to OSMA members during this past year have effectively put to rest the concerns about PLICO's decision not to seek Best's or Standard & Poor's ratings. PLICO is financially stronger than ever and has recently received a favorable ruling which will make the company exempt from new regulations requiring an ever-greater capital reserve fund.

I do not believe that any physicians in Oklahoma can find a professional liability insurance company equal to the bargain or stability offered by PLICO. Many physicians may be facing increasing pressure from hospitals to switch to a different professional liability plan, in most cases sacrificing their occurrence policy for a claims-made policy with a potentially very expensive tail when the plan is terminated. It is very important to realize the difference in these plans.

All of us should support *our* insurance company. We should insist on keeping PLICO insurance. We should stand together, not only on principle, but because PLICO is the absolute best available bargain for each of us.

David Hayes

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Health Maintenance Organizations in Oklahoma

Edward N. Brandt, Jr., MD, PhD; Robert W. Broyles, PhD; David Falcone, PhD

No physician needs to be told that the health care system is changing rapidly, with an emphasis on cost containment. The approach to effecting cost control is usually called managed care, and it is almost impossible to obtain health insurance that does not manage use of services. Managed care now forms a continuum ranging from managed indemnity insurance to classic health maintenance organizations (HMOs). The HMO is the only form of managed care that requires specific licensure by the State of Oklahoma.

With the advent of managed care underway nationwide, in rural as well as urban areas, it is vital that physicians understand the various types of managed care. The purpose of this paper is to make physicians more aware of the various types of managed care and to review current information on HMOs that operate in Oklahoma.

Definitions

Managed care is a cost containment approach that relies on utilization review to limit lengths of stay and the use of laboratory and imaging techniques; and pre-authorization to limit hospital admissions and access to expensive diagnostic and therapeutic approaches. Managed indemnity insurance imposes limitations on use, but gives the insured a choice of physicians, other health professionals, and hospitals.

Preferred provider organizations (PPOs) limit choice of physicians, other health professionals, and hospitals in addition to applying utilization review and preauthorization. Many PPOs permit the enrollee to utilize physicians other than those "preferred" ones if the patient pays the difference between the PPO's payment rate and the physician's charges.

Health maintenance organizations provide a guaranteed benefit package for a fixed monthly payment. In addition to the constraints on freedom of choice in other managed care approaches, HMOs limit referrals to non–primary care physicians and utilize mid-level practitioners extensively. There are at least five types of HMOs: the staff model, in which the physicians are employees of the HMO; the group model, in which the HMO contracts with a multi-specialty group for all care; the individual practice association (IPA), in which the HMO either contracts with an organization representing a number of individual physicians or contracts directly with individual physicians; the network model, in which the HMO contracts with several group practices, usually single specialty ones; and the point of service (POS) model, which can be a variant of any of the above models but permits enrollees to consult any physician and requires the patient to pay the difference between the HMO fee schedule and the physician's charge.

Health Maintenance Organizations

HMOs are licensed by the state Department of Health, which issues reports on them quarterly. The data reported here are from the report of December 31, 1995, and are for the full year. Nine HMOs operate in Oklahoma. Three of the nine began operations after October 1, 1994, and

The rate of increase in HMO membership in the past year has been approximately 20%.

Direct correspondence to Edward N. Brandt, Jr., MD, Director, Center for Health Policy, OUHSC College of Public Health, P.O. Box 26901, Oklahoma City, OK 73190.

Table 1. Membership

HMO	Members	%	Member Manths	%
Pacificare	126,561	44.7	1,499,033	49.7
BlueLinks	47,005	16.6	381,454	12.6
Cigna	8,024	2.8	80,466	2.7
Cammunity Care	24,596	8.7	153,583	5.1
PruCare-OKC	42,644	15.1	494,225	16.4
PruCare-Tulsa	34,286	12.1	407,268	13.5
Tatals	283,116	100.0	3,016,029	100.0
Medicare	17,254	6.1	185,575	2.0
Medicaid	30,860	10.9	71,826	2.4

Table 2. Monthly Premiums

HMO	Private	Medicaid	Medicare
Pacificare	$118.47	$111.70	$364.02
BlueLinks	132.15	95.28	____
Cigna	125.60	____	____
Cammunity Care	106.15	93.63	____
PruCare-OKC	118.03	____	____
PruCare-Tulsa	112.92	____	____

so had operated for about one year at the time of the December 31 report. Since the costs of newly established HMOs are abnormally high, the three organizations that began operation after October 1, 1994, are not included in this paper. Of the remaining six, two are sponsored by PruCare and licensed to operate separately in Oklahoma City and Tulsa.

As of December 31, approximately 10% of the population, or 305,049 Oklahomans, were covered by an HMO. Of these, 30,860 are Medicaid recipients and 17,254 are Medicare beneficiaries. The balance of 256,935 members were privately insured. The three newest HMOs included 21,933 enrollees.

Table 1 summarizes the numbers of members and member-months for each of the six HMOs. Note that Pacificare has 44.7% of the total members, followed by BlueLinks and PruCare of Oklahoma City.

The monthly premiums for each HMO are listed in Table 2. Premium rates varied from a minimum of $106.15 per month for Community Care to $132.15 per month for BlueLinks; however, the benefit packages offered by the HMOs were not analyzed and variation in the insured services could explain all or part of the differences in premiums.

Monthly expenditures are depicted in Table 3. Expenditures, by category, indicate that spending on physician care varied from 21.1 to 44.7% of total expenditures. Administrative expenditures ranged from 12.9 to 46.0%. Since Cigna has the fewest members (8,024), it is not surprising that it has the highest administrative expenses.

Table 4 lists net profits for the year. Community Care is still in the "start-up" phase and has only 24,596 members. Furthermore, they had the lowest premium. Finally, Table 5 indicates the premium-to-health care benefit ratio. This is a good measure of the commitment to quality of care.

Conclusions

Of the nine HMOs licensed to operate in Oklahoma, three (Foundation Health, Healthcare Oklahoma, and PROklahoma Care) have been licensed in the past year. There are 305,049 Oklahomans covered by HMOs, of which 17,254 are Medicare beneficiaries and 30,860 are Medicaid recipients. The rate of increase in HMO membership in the past year has been approximately 20%. Most of the growth resulted from increased enrollment among Medicare and Medicaid beneficiaries. The number of such beneficiaries is sure to increase because of the law requiring all Medicaid recipients in urban areas to be covered by

Table 3. Manthly Expenditures

HMO	Tatal	Physicians	%	Inpatient	%	Other Health Care	%	Subtatal Health Care	%	Admin-istratian	%
Pacificare	$140.46	$62.80	44.70	$25.30	18.00	$31.70	22.60	119.80	85.30	$20.66	14.70
BlueLinks	135.75	45.75	33.17	22.90	20.60	38.75	28.50	112.40	82.80	23.35	17.20
Cigna	183.65	38.70	21.10	19.33	10.50	41.12	22.40	99.15	54.00	84.51	46.00
Cammunity Care	129.76	42.33	32.60	35.19	27.20	19.02	14.70	96.54	74.40	33.21	25.60
PruCare-OKC	117.99	31.89	27.00	21.35	18.10	49.47	41.90	102.71	87.00	15.27	12.90
PruCare-Tulsa	110.15	32.36	29.40	16.67	15.10	46.53	42.20	95.56	86.80	14.59	13.20
Average	$135.06	$48.87	36.20	$24.45	18.10	$37.32	27.60	$110.64	81.90	$24.43	18.10

Note All percentages are of tatal expenditures

Table 4. Net (After Taxes) Profits			
HMO	Per Member Month	Member Months	Total
Pacificare	$8.42	1,499.031	$12,621,841.00
BlueLinks	$0.94	381.454	358,366.76
Cigna	4.50	80,466	362,097.00
Cammunity Care	(20.14)	153,583	(3,093,186.16)
PruCare-OKC	2.18	494.225	1,047,410.50
PruCare-Tulsa	7.06	407.268	2,875,312.00

*Cigno reports that 33.0% of its income is from "other revenue."

Table 5. Premium to Health Care Benefit Ratias			
HMO	Premiums	Health Care Benefits	Benefits/ Premiums
Pacificare	$118.47	$119.80	1.01
BlueLinks	132.15	112.49	0.85
Cigna	125.60	99.15	0.79
Cammunity Care	106.15	96.54	0.91
PruCare-OKC	118.03	102.71	0.87
PruCare-Tulsa	112.92	95.56	0.85

HMOs and increased incentives for Medicare recipients to join HMOs. Furthermore, there are also incentives for CHAMPUS recipients, of which there are approximately 60,000 in Oklahoma, to join HMOs. Hence, it is likely that the HMO market share will increase in the near future.

According to a RAND survey performed in 1993 for the State Task Force on Medicaid and Welfare Reform, most Oklahoma employers who sponsor health insurance benefits offer a choice of plans. It seems clear that most employees are not selecting HMOs, opting instead for greater choice of physicians. Unfortunately, no reliable data are available on people covered by PPOs or managed indemnity plans. Yet, it seems likely from indirect sources that the majority of employees covered by their employers are in such managed care plans. J

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G. Rainey Williams, MD

The Importance of Doing It Right

By Richard Green
Photography by Robert Taylor

The situation at the medical center in 1974 had been deteriorating for almost a year. It seemed like destructive forces had been loosed upon the land. This much was clear to most of the University of Oklahoma faculty at the medical center: the source of their problems was located about a mile to the north at NE 23rd and Lincoln Boulevard and the root cause was money.

Legislative leaders said or implied that the doctors had too much money and that is why they didn't want to be held accountable for it. Just the opposite, responded the medical center leadership, noting that the medical school and its teaching hospitals had always been chronically underfunded, that state support tended to come in fits and bursts and usually amounted to expensive Band-Aids.

This appeared to be so again in 1973, they believed, when a 214-bed addition to University Hospital was constructed but couldn't be opened because the Legislature wouldn't provide adequate funds to operate it. In response to the OU medical leadership's plea for funds, the governor and certain members of the Legislature announced that the medical center would be investigated and that doctors would be required to put a portion of the money they had generated from private practice into a general fund that their individual departments could not control. Furthermore, state leaders wanted the two teaching hospitals (University and Children's) to be separated from OU.

In response to an atmosphere poisoned with distrust, recriminations, charges, and counter-charges, frustrated and angry clinical faculty had begun to protest by resigning. Not only were they not appreciated, but their honesty and integrity were being questioned. The department that was hit the hardest was surgery. Of eleven surgeons, eight either had departed or had announced plans to do so. Among them was the chairman, John Schilling.

Dr. Schilling was a proud man. As the department's first-ever, full-time chairman, he had built a unit that was staffed with excellent surgeons and teachers and that had a credible and highly promising research component. During his eighteen years, he had had to fight other battles to keep things on track. Now, the department he had helped to build was disintegrating and he was powerless to stop it. In June 1974, he told his right-hand man, Rainey Williams, that he wasn't going to spend the rest of his career putting up with this kind of stuff, and resigned. He was followed out the door a month later by the College of Medicine's dean, Dr. Robert Bird, a man revered by most of the faculty.

> When he was discharged from the Army, Williams said he never again intended to be part of any outfit that wasn't committed to excellence.

On his daily rounds, Williams crosses the overhead walkway at University Hospital.

At that point, people were half joking that the last one to leave should turn off the light. Rainey Williams wondered if he should clear out. He remembers telling heart surgeon Jim Hartsuck that if he, Hartsuck, decided to leave, to let him know, and maybe he would go with him. It was a tough call. He had trained in both general and thoracic surgery at Johns Hopkins and the institution's commitment to and tradition of excellence was imbued in every bone in his body. The only institution he had ever been affiliated with that didn't have high standards was the U.S. Army and when he was discharged he said he never again intended to be part of any outfit that wasn't committed to excellence.

On the other hand, Williams had invested sixteen years at OU and hated to see the department's programs go down the drain. Furthermore, some twenty housestaff physicians were depending on him and the department to remain viable. Williams told his surgery protege Ron Elkins that maybe he, Elkins, shouldn't be "the last one out of the box." The younger man had graduated from OU's medical school and with Williams' recommendation and support had been accepted at Johns Hopkins, where he completed both general and thoracic surgery training. He had returned to the medical school to join its strong surgery faculty in 1971, and he and Williams were doing all of the congenital cardiac surgeries. It had been a time of great professional progress and satisfaction and neither man wanted it to end. Elkins told Williams that he would "stick with it." Rainey Williams was very relieved, for he had already decided that he was staying put.

His sense of relief didn't last long, however, with the sobering realization that the department had three surgeons to cover three teaching hospitals: University; the elderly and crumbling Children's; and V.A. He would begin his tenure as the new departmental chair with an almost crushing schedule of surgeries, teaching, and faculty recruiting to do. And if that weren't enough, he was in the middle of his term as chief of staff at University Hospital. In that position, he was representing a largely unsettled, unhappy medical staff to the hospital administration, which, in transition from OU's control to an independent board, was in turmoil. As 1974 was running its course, he would often return home late at night, completely exhausted, wondering if he were crazy. Did he for some perverse, deep-seated reason need the abuse from the politicians and the aggravation from the OU Regents and the new hospital board? He didn't think so and he knew there were plenty of stable, relatively well-funded institutions that would be glad to have him. What was it, then? Why did he stay?

George Rainey Williams was born October 25, 1926, in Atlanta. He was named after his father (they were both Rainey, never George) probably because he emerged first. His identical twin brother was named Russell, their mother's maiden name. Mr. Williams met and married Miss Hildred Russell in Oklahoma City after he had been transferred there by his Atlanta-based cotton insurance company. Before the boys were born, however, the couple had been moved back to Atlanta, where the boys spent their primary and junior high school years.

Were the twins inseparable as many sets seem to be? No, Williams says. "My mother didn't dress us up in matching outfits or make

us go through all that silliness associated with identical twins. She wanted us to lead our own lives." As to their closeness, Williams says he can't really characterize it because he had no other siblings with which to compare. Were you and your brother competitive? "I didn't feel that way. He was a better student; he made top grades and I made good grades. But years later, a mutual friend of ours told me that Russell did feel highly competitive toward me."

Both parents had attended about two years of college and placed a premium on a good liberal arts education. The whole family was musical. "Mother sang beautifully but never did anything with it," Williams says. "My father had played flute in the Georgia Tech band. Russell played violin and I played the French horn." After some prodding, Williams says he "was encouraged" to practice daily for an hour or so and as a soloist won superior ratings in music contests. Although he enjoyed playing, he never seriously considered a musical career. Maybe engineering, he thought, though he didn't know the first thing about it. Maybe medicine. Ditto.

These were the years of the Great Depression. The family was affected, but not seriously. Williams remembers overhearing his mother and father discuss belt-tightening. "We had a small house, one car, and lived modestly." Both boys joined junior high fraternities, which were much in vogue then, serving as semi-formal units for socializing. "All in all, I was quite happy," Williams says.

That happiness was temporarily suspended after Mr. Williams was called to active duty in the Army in 1942. Hildred Williams moved the family back to Oklahoma City to be with her family. Rainey and Russell were 16. Shortly after they had settled in with Hildred's family, Mr. Williams announced from North Carolina that he wasn't coming home. He was involved with another woman. "Russell and I were surprised. We didn't know they had been unhappy, but these things don't generally happen if the marriage is on a firm footing. We were very unhappy for a time, but it (the news and subsequent divorce) wasn't the ever-lasting trauma that seems to be the standard that I read about today."

Rainey, of course, disliked being uprooted but brought something lasting with him from Atlanta: his soft Georgia accent. He had no trouble making friends, especially after joining a fraternity at Classen High School. Two from that group, Bob Ellis and Dick Clements, are still his best friends. Later, he met Martha Vose, pretty, petite, charming, smart, and the daughter of the president of the First National Bank, one of Oklahoma City's two leading banks. "We hit it off immediately and I don't think it was long before I knew that someday we would be married. Martha felt the same way.

> In school Williams particularly liked philosophy. "I was amazed to find that there was a discipline on thinking. I had never thought very much about thinking."

First, they had to complete high school and college, and he was hoping to go to medical school after that. There was also the matter of World War II. By Rainey's graduation in the spring of 1944, the Allies were about to launch the massive effort to reclaim Europe. Very likely Rainey would have been involved if he had not been admitted to the Navy's V-12 program, a vehicle for producing officers with specialized training such as engineers and physicians. He was one of four Classen graduates to score high enough for admission to the V-12. He hoped he would be assigned to Emory University in Atlanta. His best friend, Dick Clements, wanted the University of Texas. Perhaps the Navy got things scrambled up: Clements to Emory; Williams to UT.

Russell went to OU and roomed with Bob Ellis. Ironically, Rainey would become much closer to Ellis than to his twin brother, mainly because of career choices. He and Ellis wanted to be doctors while Russell eventually became a historian. Of his twin, Rainey says, "Beginning with college, our lives changed as we pursued different courses and we were never very close after that."

As with any set of identical twins, their lives could be studied for clues associated with the relative influence of nature versus nurture. After a successful and productive career teaching

His well-deserved selection as OU's Stonton L. Young Master Teacher in 1991 was one of Williams' proudest moments.

Martha Vose of Oklahoma City became Mrs. G. Rainey Williams in 1950.

history at Michigan, Russell developed alcohol and emotional problems and died unhappy and feeling unfulfilled in 1974. That was the same year that Rainey Williams was dealing with the aforementioned crises at OU's medical school and the teaching hospitals. Why one prevailed while the other could not cope is unknown and by now, probably unknowable.

Rainey spent two years at UT, one of 3,000 men enrolled with 12,000 women. Although Martha had his heart, she did not have his presence, and he dated at least a few of the multitude available in Austin. After graduating in 1945, she matriculated to her mother's college, Smith, in Philadelphia, Pennsylvania. Martha also dated, but like Rainey, the dates were strictly social.

As a pre-med student in the Navy, Rainey attended class in uniform and marched and drilled some; otherwise, he was on his own and joined a fraternity and partied just like any underclassman. Gradewise, he did fine, but didn't study any harder or more than he partied. He particularly liked zoology and philosophy. "I was amazed to find that there was a discipline on thinking. I had never thought very much about thinking." He was drawn to Descartes, who among other things, said that nothing can be considered true unless it can never be doubted under any conditions. *Cogito, ergo sum* (I think, therefore I am) survived his test. This rigorous, highly disciplined sort of thinking, Williams would later see, helped make him a better physician.

The war ended and consequently the V-12 program. After six semesters at UT, Williams was ready for medical school. He applied to four schools and he and Bob Ellis made a deal; they would go to the first one that accepted them both. They reported to Northwestern University in Chicago in 1946.

Why Williams chose medical school is still unfathomable to him. "No doctors in the family, no experience with doctors or hospitals, but somehow it just always seemed like the right idea. As I discovered later, most of my classmates were in that way just like me."

One of life's defining moments occurred during his first weeks of medical school. Williams realized he was in the right place at the right time, with people like him who were giving their best. Out of the initial anxiety and insecurity, order had emerged and he found that he could not only compete, but excel. And it wasn't just that he *could* do this, but that he *wanted* to do this. As a result, he felt his life had direction and purpose.

"It (the first year) was one of the great years of my life," Williams says. I had four or five of the best teachers I've ever seen, always well prepared, always presented the information clearly and concisely. Everyone attended class, and took voluminous notes. Today, it's one guy with a tape recorder." (As a member of the admissions board for many years, Williams made several such comparisons during the interviews for this story.)

Ellis and Williams were roommates in the dorm for the first year and a half. "Rainey was very enthusiastic and the profs recognized this," Ellis says. "He made AOA. But as hard as we studied, we still had somewhat of a social life. It was, after all, Chicago. We saw *Streetcar Named Desire*, Nat King Cole at the Blue Note Club, and even went to the Rose Bowl in 1948—the last time Northwestern was there until last January."

Rainey later worked for an industrial physician, sleeping in his office and taking night call. "I had the GI bill but Northwestern even then was expensive, about $1,000 a year, and I needed to be less of a drain on my mother, who as far as I knew was living on alimony."

He was leaning toward surgery even before his clinical rotation. "Actually, the first time I saw surgery being performed in one of those surgical amphitheaters, I almost passed out. I don't recall the details, but it was some sort of operation in which they were spilling a great deal of blood."

Having thoroughly enjoyed his surgery rotation, he also had found a role model, chief resident James T. Grace, who seemed to know everything pertinent, was bright, enthusiastic, an excellent surgeon, and interested in the students and residents. He saw gastrectomies, gall bladders, thyroids, cancer operations of the abdominal region, and just grew to love general surgery. He found his neurosurgery rotation fascinating, and although neurosurgeons were at the top in prestige, "I was smart enough to know that in the late forties they weren't getting very good results."

The year he received his MD coincided with Martha's graduation from Smith. She majored in American studies, a great field of study but with no apparent commercial value. That was okay; she planned to be a doctor's wife and raise a family. Rainey and Martha were married in June 1950. Since 1946, except for summer vacations, they had carried on their relationship through letters. "Long distance was very expensive and I don't think I ever once called Martha during those years," Rainey says. "I do recall sending her a telegram about my internship."

Rainey had a lot going for him in 1950. He had been senior class president, was AOA, and had excellent recommendations. He didn't want a rotating internship, but one that tied into a surgery residency. Accordingly, he interviewed at appropriate and top-notch programs in Philadelphia, New York, Boston, and Baltimore. "I happened to have lunch with this group of residents at Johns Hopkins and remember telling Martha that they were the damndest bunch I had ever seen. David Sabersten, Denton Cooley, Frank Spencer, and Jim Maloney—all who became nationally renowned surgeons. I thought, this is the place for me."

It was.

During that first year, Rainey had no assigned time off. Martha says she didn't know what she was getting into. "That first morning Rainey said he'd call when he got things squared away. Three days later he called, saying it looked like he was going to be a little bit busy."

He received no salary and Martha was a secretary in downtown Baltimore. "We lived in a little apartment in a row house near the hospital," Martha recalls. "The living room was separated from our bedroom by a stairway leading to the upper floors." The bathroom in the back, an add-on with a dirt floor and no heat, had the charm of an outhouse.

In his first year, Rainey spent a month on the heart service with the chief, Dr. Alfred Blaylock, one of the most imminent and best-known surgeons in the world. "With the heart-lung machine still years off, almost all of the surgeries involved congenital disease and, of course, were performed on the beating closed heart. It was the only chance the baby had and many of these surgeries were successful."

Through exposure to many superb faculty and residents Rainey saw that their standards were exceptionally high. For the first time, he learned of the importance of doing everything right. Shortcuts

Family means everything to Rainey and Martha Williams. Below, they enjoy Halloween with two of their grandchildren, Rainey III and Sam, sons of Casey and Rainey Williams, Jr.

Williams is an avid hunter, as evidenced by this pointing of his bird dogs and a handsome collection of shotguns.

were to be avoided even though he might be swamped with patients and other responsibilities. In that milieu, before he quite realized it, his standards of practice and conduct mirrored his superiors. They became so ingrained that he could accept no less from anyone either during his ascent at Johns Hopkins or at OU. All this before he was even operating himself. But the potential must have been obvious because Rainey Williams was one of two residents to receive the William Stewart Halsted Fellowship in surgical pathology in 1951-52.

In those days, Johns Hopkins accepted fourteen first-year residents, but only two of them, the chief residents, would complete the six-year residency. Generally, the Halsted fellows made it to the top of the pyramid. But in Rainey's case that decision would be in limbo for two years as a result of the Korean War.

Actually, he missed the war, which started five days before he began his internship and the armistice was signed several days after his induction in July 1953. He arrived in Korea in late 1953 and served as a medical officer treating the complaints of soldiers waiting to go home. For the most part, it was a negative experience. The Army was a model of how not to do things. The line officers, he recalls, didn't seem to give a hoot about anything. One night, after diagnosing an acute appendix in a Korean soldier, he loaded the patient into a jeep and drove twenty miles to a MASH unit. They arrived to find the unit in the midst of a drinking party. The colonel in charge told Williams that nobody was sober enough to do the operation. He said he might find a nurse who wasn't too drunk to help Williams do the surgery—if that would help. Williams, who had done a couple of appendectomies at Hopkins, readily agreed and performed the procedure.

A builder of model ships, Williams wields an X-acto knife as skillfully as a scalpel.

After Korea, Williams spent nearly a year at Fort Hood in Texas. He was assigned to a mechanized unit and spent a lot of time doing maneuvers, none of them medical or surgical. "I just wanted it to be over and get back in Hopkins. Dr. Williams reported almost two months late in the academic year, in late August 1954. If anything, he was even more motivated than he had been in 1950. By then, he and Martha had two babies, Bruce and Alden.

As Williams gained experience and skill, he did more and more closed heart procedures. When they worked, these critically ill children were restored to health almost immediately. To the families of these children what Williams had done seemed miraculous. Toward the end of his residency, the heart-lung machine was being introduced and it was both an exciting and painful process. During one stretch, sixteen consecutive heart surgery patients died, probably all due to complications arising from the pump. The team worked day and night and tried everything they knew to eliminate problems. Finally, there were some successes and although in 1958 the pump had not been perfected, teams at Hopkins and a few other centers were getting closer.

Williams was asked to join the faculty but he told Dr. Blaylock that he and Martha didn't want to raise a family near Johns Hopkins. (As a heart surgeon, he would have to live near the hospital.) He was more tempted by Stanford's offer, but at that time the medical center was located in downtown San Francisco and they didn't want to raise children in a crowded big city. Although Williams could have had many more options to choose from, he had liked OU's surgery chairman John Schilling and knew that the medical school was adding many more full-time clinical faculty. Also, he didn't have to ask to know that

Martha would love to set up their home in Oklahoma City. So he signed up as an assistant professor of surgery and was paid the going rate: $10,000 per year. A short time after the family arrived, a second daughter, Ellen, was born, followed in 1960 by the last of the children, another George Rainey Williams.

Dr. Williams stepped into a highly unsettled situation in the summer of 1958. Surgeons in private practice had always run the department in their spare time. But in 1955 Schilling arrived, with a mandate to transform the department into a strong academic unit with full-time faculty dedicated to teaching, research, and service. With the addition of Williams, Schilling had built a formidable department and alienated the powers-that-were. They launched a campaign to rid the medical center of this meddlesome chairman. Medical school dean Mark Everett shrewdly formed a committee to look into the matter.

It was a simple matter of control, says Williams. "The good ole boys ran this place as their hobby. John Schilling got control and took the department to another level and they resented him, as an outsider, for doing that. Their idea of a full-time chairman was somebody who worked for them full-time. As Dean Everett could have predicted, the ad hoc committee's report was favorable to Schilling; there were no grounds for a resignation.

Williams was relieved. "If they had forced Schilling to resign I would have resigned as well and probably gone into private practice." With that out of the way, Williams settled down to study for his boards, and in 1959 he was board certified both in general surgery and thoracic surgery.

Williams had been hired, in part, to increase the department's research component, and he didn't disappoint. He received funding from the National Institutes of Health to study cardiovascular physiology and in 1960 was named a Markle Scholar, which provided additional research support.

The thrust of his research changed in 1962 after he read about the successful reimplantation of a 12-year-old boy's severed arm. "I had already seen several severely damaged limbs due to oilfield or farming accidents and thought sooner or later we would have the opportunity to reimplant a limb here."

To prepare, Williams began doing animal studies that he knows would not be permitted today. But he needed to know how long muscle would live and where to begin and what to do next and so on. Within two years, he had many of the answers and the opportunity to use this knowledge in an attempt to save Bob Swaffar's right arm.

It had been wrenched away between the elbow and shoulder when this Oklahoma State University basketball player reached into a high-speed, water-extracting clothes dryer. Three hours later, around midnight, Swaffar, his severed arm in a tub of ice, arrived at University Hospital. A team assembled by Williams was in place. "Bob was an ideal candidate," Williams says. "He was a trained athlete who at six feet eight had vessels as big as my finger. The accident happened with such force that the structures, except for the bone, looked cut apart, not torn apart. I told Bob we had never done this before, but conditions were favorable and we wanted to try."

By sunrise, Swaffar's arm was back in place and within a day or two, the story was reported to the world via news wires. It was by no means a normal arm, but Bob eventually could carry a briefcase and open doors with it. Williams says other operations, such as tendon transfers might have improved function still more, but Swaffar elected not to have them. Technically, surgeons had had the ability to perform such operations for at least fifty years, Williams says. "Why no one had was the same reason that no one had run the four-minute mile (before 1954): people didn't think it could be done."

Also during the sixties, Williams added other innovations to surgical practice. The reconstruction of the common bile duct, he knew, had to be done very precisely to avoid scarring and subsequent failure. Through trial and error, he developed the techniques that enabled him to achieve a much higher incidence of healing without complications.

Other innovations, involving congenital heart disease, required experience and the study of autopsy specimens, and were dependent on the heart-lung machine, which Williams says totally transformed heart surgery after 1960. Throughout the sixties, Williams spent about eighty

An all around spartsman, Williams loves fishing as much as hunting.

Na small part of Williams' legacy are these surgery residents, each of wham studied under his tutelage.

percent of his surgical time doing heart operations and achieved increasingly better results. But even into the seventies it was necessary to spend a lot of time postoperatively with his young patients.

And there were other demands on his time. He wanted to step up the level of his research, but by 1963 Williams had been promoted to full professor and vice chair of the department. John Schilling was obviously impressed with his administrative abilities and was perhaps grooming him to be his successor. As an example of his non-surgical abilities, Williams enlisted state welfare director Lloyd Rader's support in establishing a heart center at Children's Hospital. Another example: Williams could spot potential and do his part to nurture it. He noticed a very bright medical student named Ronald Elkins and, after getting to know him better during a surgical rotation, decided that Elkins had "a surgical personality." That is, Elkins was willing to make timely decisions and act upon them quickly and decisively.

He encouraged Elkins to pursue a first-rate surgery residency program and then when Elkins followed his advice to apply to Johns Hopkins, helped to get the young man accepted. "I had no idea if he would come back to practice here, but the thinking was if we sent enough of our best and brightest out to these outstanding programs, we would get some of them back. Elkins did return to his alma mater in 1971 and he and Williams did all of the heart surgeries until the crisis year of 1974.

The state legislature didn't trust OU's medical center leadership. What happened in the surgery department in the late 1950s also happened in other clinical departments. Leadership had changed hands, from local volunteers to full-time academicians, and since they were from out of state, they were dubbed free-spending carpetbaggers by the provincials and political opportunists in the legislature. Some of the "outsiders," according to Williams, could inflame legislators just by walking into the room. Out of this estrangement came suspicion and distrust, which led to investigations and allegations. Because Schilling had seen it all before and

would not endure it again, he resigned in mid-1974. Many others resigned for similar reasons.

Williams stayed for many reasons, and although he doesn't remember prioritizing them, he knew that when the crisis passed, compromises would have been fashioned that would enable the institution to emerge with renewed strength. As the new chairman of surgery and chief of staff at University Hospital, Williams represented the interests of the physicians well and fairly, and his reputation for honesty and integrity was enhanced. Some faculty, like Ron Elkins, credited him for holding the hospital together in 1973-74.

At any rate, 1974 was a turning point for Rainey Williams. After he became department chair, he told Elkins he no longer had the time to deliver adequate post-operative care associated with heart surgeries. A deal was made: "I agreed to do the hearts and Dr. Williams said he would keep doing general surgeries," Elkins says. Williams' immediate priority was to recruit good faculty. As a Markle Scholar, he had met "a disproportionate number of leaders in academic medicine" and he used those contacts to identify and sign up several excellent faculty members.

His reputation, skills, and contacts were in demand locally and outside of Oklahoma. He was recruited by other medical centers, and although he always followed Dr. Schilling's admonition to at least see what they had in mind, he never considered any offers seriously. In 1981, when the dean of OU's medical school resigned, many faculty members asked Williams to apply. He said he wasn't interested, that he was happy doing surgeries, teaching residents and students, and running the department. He did accept an appointment as interim dean for 1981-82, and on two other occasions during the eighties. At a diabetes association-sponsored roast of Williams in 1992, his old friend Bob Ellis, for years an allergist with the Oklahoma Allergy Clinic, said that Rainey had been acting dean three times and therefore ought to stop acting and "do something over there."

What he did was keep things on an even keel. That is no mean feat at a medical school populated with bright, clever, dynamic, compulsive, jealous, talented, ambitious, and egotistical people that is subordinate to regents and legislators. The dynamics, pressures, and challenges are unrelenting. Each time, Williams handed over a relatively stable enterprise.

What he didn't do was mix well or often with public officials. "No question, I should have spent more time with those people shooting the breeze but I've always hated politics. I don't trust politicians because our ideas of honesty differ."

Whether Williams is dealing with legislators or surgery residents, there are no degrees or modifications of honesty. "Residents who have lied to me or others have not had their contracts renewed," he says. "People tend not to change. When I ask a resident how Mrs. So-and-So is doing and he says fine, and I later find he had not seen her, that may seem minor but it's not. Instead of saying that he hasn't had time but will see the patient later, he lies. People like that tend to lie repeatedly and we're not gonna have anyone like that successfully completing our program."

Such discrimination has contributed to the excellence of OU's surgical residency program. Every year, Williams receives more than one hundred applications for three slots in general surgery.

Three of Williams' former residents have named children after him. This two-year-old, K. Rainey Reynolds, is the third. On the right is his dad, Dr. Tom R. Reynolds.

For the past few years, Dr. Williams has been wearing his tux more often than ever, as he appears at dinners and ceremonies honoring him for career achievements. He was inducted into the Oklahoma Hall of Fame in 1986, elected to the Johns Hopkins Society of Scholars, received the Brotherhood Award from the state chapter of the National Conference of Christians and Jews and OU's highest award, the Distinguished Service Citation. The award he cherishes most, however, is the Stanton L. Young Master Teacher Award for 1991. "There are very few major awards for medical teaching and they don't ordinarily present it to someone in the high-earning specialties. (The award includes a $10,000 prize.) I was ab-so-lutely surprised and enormously pleased to be selected."

Later, while browsing through some snapshots of himself and Martha in various vacation settings and of himself and his fishing and hunting buddies in various trout or bird ha-

"I don't trust politicians because our ideas of honesty differ."

vens, Rainey comes across a photo that reminds him of another honor, this one highly personal. It is a picture of Williams and one of his former residents cradling his baby son. "That baby is named Rainey," he says, smiling. He was the third resident to have named a child Rainey.

Dr. Williams will be 70 in October and he has submitted his resignation as chairman. Since the dean has taken no action whatsoever, he has, in effect, not accepted the resignation. Williams has indicated that he will probably stop doing surgeries within a year, and that would force some action. "I want to quit before I recognize that I ought to quit. But I'd like to stay around to assist and teach some more. I still get a charge out of teaching residents and students. In fact, as much as ever."

Richard Green, an Oklahoma City writer, has been doing Leaders in Medicine biographies for the JOURNAL *since 1985.*

Robert Taylor is a professional photographer based in Oklahoma City.

Successful Urgent Cerclage in a Quadruplet Gestation

Stuart D. Haraway, MD; Arthur H. Schipul, Jr., MD; Jennifer S. Thomas, MD; William F. Rayburn, MD

Pregnancies complicated by quadruplets are rare but at high risk for premature cervical dilation, premature deliveries, and increased perinatal mortality. This report presents a case of a patient carrying quadruplets whose cervix became 4 cm dilated at 21 weeks even though there were no reported uterine contractions. Despite bed rest and combination tocolytic therapy, the cervix dilated to 6 cm and the membranes protruded. Described here are refinements of an Olatunbosun technique to successfully perform the cerclage. Labor occurred at 32 weeks, and a cesarean delivery was performed before the transvaginal removal of the cerclage. The four appropriately-grown fetuses adjusted well in the intensive care nursery.

The incidence of quadruplets ranges from 1 in 5,370 to 60,000[1] pregnancies. Quadruplet gestations are associated with a high incidence of neonate complications and mortality, especially after preterm birth. Collins and Bleyl[2] have reported that the mean onset of preterm labor is 24.5 weeks, tocolysis is required in 83% of cases, and the mean gestational age at delivery ranges from 31.1 to 33.8 weeks.

Evidence of painless cervical dilation has been reported in 14% of quadruplet pregnancies.[2] Several authors have examined pregnancy outcomes in nonrandomized studies to determine whether routine placement of a cerclage early in gestation is helpful. No benefit has been reported. Lipitz et al.[3] compared seven patients receiving cerclages at the end of the first trimester with three patients who received no cerclage and found no difference in mean gestational age at delivery (30.3 weeks versus 33.0 weeks, respectively). Collins and Bleyl[2] reported similar findings in a nonrandomized study involving 71 sets of quadruplets. The mean gestational age at delivery for the cerclage group was not different than that reported overall (31.2 vs. 31.4 weeks, respectively).

A major clinical challenge is to determine early signs of cervical dilation. A woman not suspected of having such a problem may present with an effaced and widely dilated cervix. This unfavorable circumstance is difficult if not impossible to correct with a cerclage. The present case is the first known report of a technique used successfully to place a cerclage in quadruplets in the presence of bulging membranes and advanced cervical dilation.

Case Report

The patient was a 31-year-old African-American female who had had three previous full-term vaginal deliveries. She had undergone a tubal sterilization after the third baby; however, a recent remarriage resulted in the patient desiring further fertility. In vitro fertilization elsewhere resulted in a quadruplet gestation. A repeat prenatal examination revealed her cervix to be 3 cm dilated and 60% effaced with no uterine contractions being reported. She was started on subcu-

It was felt that the pregnancy's prognosis was grim with continued tocolysis and bed rest.

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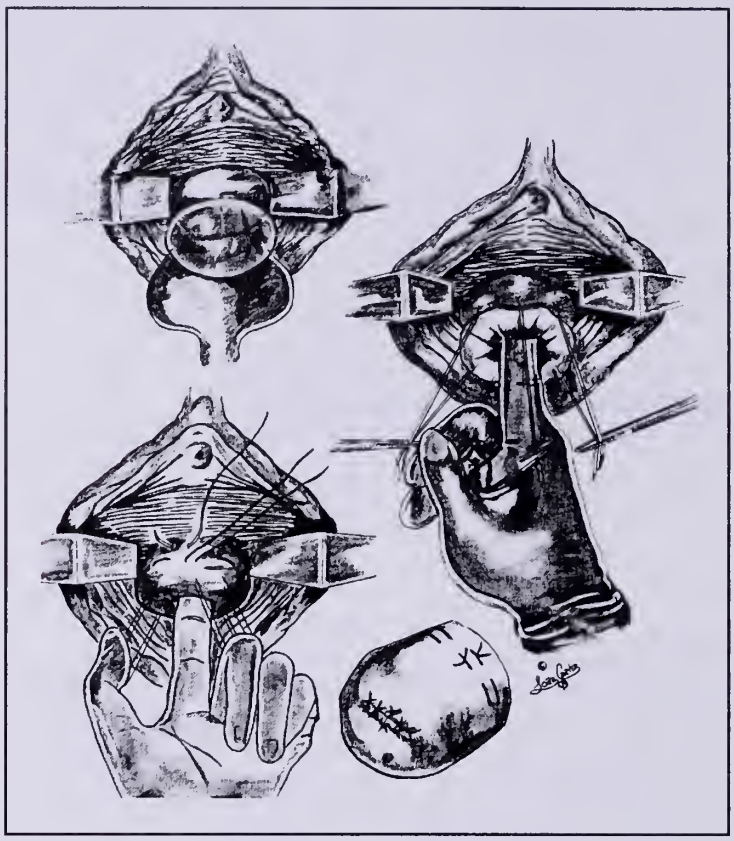

Figure 1. Reduction of cervical stay sutures while reducing bulging amniotic membranes.

taneous terbutaline and transferred to our institution where contractions were recorded on an external electronic monitor. Intravenous ampicillin was begun until select cervical and vaginal cultures (gonorrhea, chlamydia, group B streptococcus) revealed no growth. She continued to experience contractions despite intravenous magnesium sulfate, oral indomethacin, and subcutaneous terbutaline. By hospital day six, her cervix was 6 cm dilated and the membranes were bulging. The contractions resolved and remained absent for 24 hours.

Estimated gestational age was 21 weeks. Long term temporization was doubtful with continued tocolysis and bed rest. After detailed counseling, an emergent cerclage was offered and the patient agreed to the surgery. She was placed in a steep Trendelenburg position under general halothane anesthesia, and the vulva was prepared in the usual manner. The vagina was rinsed only with sterile saline. The dilated cervix was then exposed utilizing multiple intravaginal retractors.

The urgent cerclage technique was a modification of that reported by Olatunbosun and Dyck in 1981.[4] Initially, 10 stay sutures of 2.0 silk were placed around the edges of the effaced cervix (Fig. 1). The first surgical assistant then placed a second larger-sized surgical glove on his dominant hand. Sterile saline was placed between the two gloves, and the second glove was secured tightly with an umbilical cord clamp near the wrist. The saline was mobilized to the index finger creating a 3-cm-long liquid cushion between the two gloves at the tip of the index finger. While the patient was maintained in the deep Trendelenburg position, the second surgical assistant maintained traction on all stay sutures. The first assistant then utilized his cushioned index finger to gently elevate the bulging membranes up into the cervical canal while the stay sutures were approximated as closely as possible to his index finger elevating the membranes (Fig. 2).

Next, the surgeon placed a monofilament nonabsorbable suture (1.0 Prolene) as high near the internal cervical os as possible (Fig. 1). The first assistant guided the depth of the suture placement by feel. When the purse-string was completed anteriorly, the surgeon tied the Prolene suture as lightly as possible against the distal tip of the first assistant's index finger. Multiple square knots were placed before the saline cushion was reduced and the flattened second glove removed.

A second Prolene purse-string suture was then placed on the cervix approximately 0.5 cm distal to the first suture. This was also tied down against the distal tip of a finger inserted into the cervix. The silk stay sutures were then removed and the procedure completed by using two 4.0 Prolene sutures in a figure-of-eight fashion to close the cervical os.

The patient was kept in a Trendelenburg position for the next 24 hours and given two doses of cefoxitin intravenously for 12 hours. For the first postoperative week, she was given two tocolytic drugs (intravenous magnesium and oral ritodrine or indomethacin) due to intermittent uterine contractions. On postoperative day nine, she was transferred to the ward and gradually weaned to oral ritodrine alone. Serial ultrasound scans revealed concordant and adequate fetal growth with normal amniotic fluid volumes.

Strong and frequent uterine contractions recurred at 31^{+} weeks. The closed cervix was completely effaced with the presenting part being at +1 station. The cerclage remained in place without evidence of a laceration. Intravenous magnesium was restarted, but contractions continued. Therefore, delivery proceeded with a low transverse cesarean section under epidural anesthesia, followed by the transvaginal removal of all sutures. Her postoperative course was unremarkable and she went home on postoperative day four.

Each infant was appropriately grown (1330 g, 1360 g, 1156 g, and 1461 g) but experienced

respiratory distress. They were gradually weaned off oxygen, continued to feed and grow well, and were transferred to a level one nursery in the patient's home town on postnatal days 24 and 31. All survived and did well.

Discussion

Limited information exists about the effectiveness of cerclages in high order gestations. Should quadruplet pregnancies receive an elective cerclage even if there is no history of an incompetent cervix? The answer appears to be no. This impression is also true for twin and triplet gestations.[5-8] The only report to the contrary was by Goldman et al.[9] in which a significant prolongation of gestation (35.0 weeks versus 30.7 weeks) occurred in 12 triplet and 3 quadruplet cases which received an elective cerclage, compared to a nonrandomly chosen group of 10 triplets and 2 quadruplets who received no cerclage.

Painless cervical dilation is usually unsuspected and the patient presents at a previable gestational age with a widely dilated effaced cervix and bulging amniotic membranes. If there is no intervention, uterine contractions invariably ensue and frequently lead to the delivery of infants who die of extreme prematurity.[4] Should an urgent cerclage be performed in quadruplets under this circumstance? Most investigations pertaining to this issue have dealt with singleton gestations. Salvage rates for a cervical dilation greater than 3 cm or membranes bulging beyond the cervical os have varied widely (mean 59%, range 11 to 100%) using emergency cerclages in select singleton gestations.[10,11]

Most urgent cerclages are of the McDonald type. In the described case we used a modification of the McDonald procedure similar to that presented by Olatunbosun and Dyck in singleton gestations.[4] Use of cervical stay sutures aided the surgeon in placing traction on the fully effaced cervix while gently reducing the amniotic membranes above the cervical canal using a cushioned gloved finger. Other reported means of elevating the membranes include use of an inflated Foley catheter bulb, moistened sponged stick (associated with a higher incidence of ruptured membranes), amniocentesis, and maternal bladder distended with normal saline.[11,12] Unlike these techniques, the gloved finger offered the advantage of palpating the suture as it is being placed nearby. A monofilament suture was used to reduce the chance of an ascending bacterial infection.

This case reports a technique whereby bulging amniotic membranes were elevated and the cervix closed in a quadruplet pregnancy at a critical previable gestational age. We would assume that delivery was otherwise imminent because of the progressive cervical change to 6 cm dilation. Employment of an urgent cerclage may be questioned, but seemed reasonable after bed rest and maximal medical management were unsuccessful. More definitive conclusions about the value of the described technique in multifetal gestations should be studied prospectively in a randomized, untreated control manner as part of a multicenter trial.

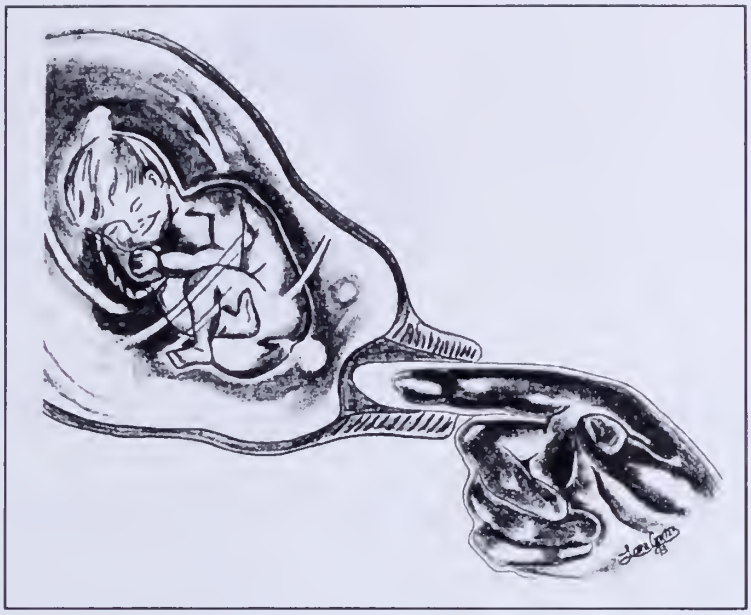

Figure 2. Use of a saline-cushioned index finger to elevate the amniotic membranes.

References

1. Petriscovsky BM, Vintzileos AM. Management and outcome of multiple pregnancy of high fetal order: literature review. *Obstet Gynecol Survey* 1989;44:578-584.
2. Collins MS, Bleyl JA. Seventy-one quadruplet pregnancies: management and outcome. *Am J Obstet Gynecol* 1990,162:1384-1392.
3. Lipitz S, Frenkel Y, Watts C, Ben-Rafael Z, Barkai G, Reichman B. High-order multifetal gestation—management and outcome. *Obstet Gynecol* 1990,76:215-218.
4. Olatunbosun OA, Dyck F. Cervical cerclage operation for a dilated cervix. *Obstet Gynecol* 1981;57:166-170.
5. Lipitz S, Reichman B, Paret G, Modan M, Shalev J, Serr D, Mashiach S, Frenkel Y. The improving outcome of triplet pregnancies. *Am J Obstet Gynecol* 1989;161:1279-1284.
6. Itzkowic D. A survey of 59 triplet pregnancies. *Br J Obstet Gynecol* 1979,86:23-28.
7. Weekes ARL, Menzies DN, Boer CH. The relative efficacy of bed rest, cervical suture and no treatment in the management of twin pregnancy. *Br J Obstet Gynecol* 1977;84;161-164.
8. Dor J, Shalev J, Mashiach S, Blankstein J, Serr DM. Elective cervical suture of twin pregnancies diagnosed ultrasonically in the first trimester following induced ovulation. *Gynecol Obstet Invest* 1982; 13:55-60.
9. Goldman GA, Dicker D, Peleg D, Goldman JA. Is elective cerclage justified in the management of triplet and quadruplet pregnancy? *Aust New Zeal J Obstet Gynaecol* 1989;29:9-12.
10. Whitehead KD, Wise RB, Dunnihoo DR, Otterson WN. Retrospective analysis of cervical cerclage procedures at the Louisiana State University, Shreveport (1980 to 1987). *South Med J* 1990;83:159-160.
11. Barth WH, Yeomans ER, Hankins GDV. Emergent cerclage. *Surg Gynecol Obstet* 1990, 170:323-326.
12. Scheerer LJ, Lam F, Bartolucci L, Katz M. A new technique for reduction of prolapsed fetal membranes for emergency cervical cerclage. *Obstet Gynecol* 1989;74:408-410.

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A message to Congress...

Nancy W. Dickey, MD
Chair, American Medical Association

Lonnie R. Bristow, MD
President, American Medical Association

"It's time to end the discrimination in health insurance."

The House and the Senate are taking important strides toward seeing that more people maintain their access to health care. Congress is poised to pass long-needed laws making health insurance portable and ending exclusions because of pre-existing medical conditions. But that alone will not end the discrimination in health insurance. Medical Savings Accounts and coverage for people with mental illnesses are two more steps Congress should take to make sure millions more Americans get the care that today they are denied.

"Everybody-including the self-employed-should have equal ability to decide how to spend their health care dollars."

MSAs are a choice millions want but are denied. National surveys report that 43 percent of all workers would consider switching to an MSA if they could. Today, only 2,000 employers offer them to their employees, because under current law, they don't qualify for the same beneficial tax treatment as other forms of health insurance. So far, 15 states have enacted MSA legislation. It makes sense to make MSAs available to the people who want them.

"People with mental illness should have the same access to care as people with other illnesses."

Anyone who has watched a family member or friend succumb to mental illness knows that it is just as real as other diseases. Legislation passed by the Senate requires insurance companies to put mental illness on an equal basis with other medical conditions. Parity will save the economy some $2.2 billion a year in reduced absenteeism, higher productivity and lower health care costs.

American Medical Association

Physicians dedicated to the health of America

Board of Trustees meets before House convenes

Delegates make decisions on 39 resolutions at Annual Meeting in Tulsa

This year's Annual Meeting of the OSMA House of Delegates, held in Tulsa in April, was relatively quiet as those in attendance tried to put aside partisan differences and turn their energies to the business of the association.

Officially the meeting ran from April 26 through 28, when the House of Delegates met; unofficially it began with the meeting of the OSMA Board of Trustees on April 25.

SYNOPSIS OF ACTIONS TAKEN BY THE OSMA BOARD OF TRUSTEES:

☛ The board confirmed the appointments of Mary Anne McCaffree, MD, and Sara R. DePersio, MD, to serve out the vacant terms on the Oklahoma AMA delegation.

☛ The board will ask PLICO for a royalty of approximately $100,000 a year.

☛ The board will ask PLICO for the $500,000 owed the OSMA and when it is received, the money will go into reserves and not into the general operating funds.

☛ New signature cards will be obtained for signing OSMA checks. The signatures will be those of the president, secretary-treasurer, and executive director.

☛ The following re-appointments to the JOURNAL's Editorial Board were confirmed: Robert L. Scott, MD, editor (3-year term); and Drs. Ruth H. Oneson, David M. Selby, Clifford G. Wlodaver, and Ollie W. Dehart, associate editors (1-year terms).

☛ The board accepted the Supplemental Report, Annual Report, and recommendations of the Appropriations and Audit Committee, which was amended to read: "The Audit Committee recommends to the Board of Trustees to allow management to actually fulfill the responsibilities noted in the Grant Thornton Audit Report and that consideration be given to contracting for accounting services with a CPA."

☛ To protect the tax-exempt status of the OSMA from charges of private inure-

(continued)

Cyberscience: OSMA hops aboard the Internet express with Tulsa debut

OSMA Online, the association's new web site on the Internet, made its debut at April's Annual Meeting in Tulsa. The site will give OSMA physicians quick, easy access to electronic news and entertainment from the Internet, currently the hottest thing in modern communications.

The site will also post the latest OSMA information—legislative updates and alerts, OMPAC information, association publications, OSMA Alliance information, and news from OSMA councils and committees.

The Internet itself offers access to countless medical journals; clinical resources such as established online medical references; NIH resources; medical education libraries; public and private research; and disease-specific databases. By accessing the Internet through OSMA Online and its links to these "healthy" web sites, physicians won't have to "surf" for hours to find the information they need.

Physicians can also keep in touch with colleagues through OSMA Online's e-mail directory. Online discussion groups or "chat rooms" are planned for the near future as well.

The OSMA web site also provides the general public with valuable information about the Oklahoma State Medical Association and other health-related topics.

There is no charge for members to use OSMA Online; however, registration is required in order for physicians to obtain their personal login and password to access the member portion of the site.

To register, physicians should visit the OSMA's home page at http://www.osmaonline.org and complete the online registration form. Until physician registrations and private passwords are confirmed by the OSMA, physicians may access the member information for a limited time by entering the following login and password:

Login: doctors
Password: osmahome

Password access to OSMA Online is available to non-member MDs, and also DOs, for a nominal yearly fee.

For more information about OSMA Online contact Kathy Musson at the Oklahoma State Medical Association, (405) 843-9571 or 1-800-522-9452 or by e-mail at osma@ionet.net.

Resolutions *(continued)*

ment, all outstanding loans are to be brought current.

☛ The new OSMA Personnel Policy presented by the Finance, Personnel, and Compensation Committee was adopted. Also adopted, as contained within the report of that committee, were the recommendations of the OSMA Pension Plan Committee, the OSMA check-signing policy, and the annual review of OSMA personnel.

☛ Officer stipends were increased.

☛ The board adopted the new policies and procedures for the OSMA Program of Accreditation for Continuing Medical Education.

☛ An expenditure of $44,835 to upgrade the OSMA computer system was approved as outlined.

☛ Robert Weedn, MD, was elected chair of the OSMA Board of Trustees and Chet Bynum, MD, was elected vice-chair.

☛ M. Michael Sulzycki, acting OSMA executive director since last fall, was named executive director.

☛ As noted in the secretary-treasurer's report pertaining to the cost of an audit, the board is to study the cost and duties to be performed, and evaluate them for action to be taken.

Trustees name new OSMA Life Members

Ten applications for Life Membership status in the OSMA were approved by the Board of Trustees at their meeting on April 25 in Tulsa.

Applicants from Oklahoma City were Theodore W. Violett, MD; Bertram E. Sears, MD; and M.T. Buxton, Jr., MD.

From Tulsa were Bill B. Elrod, MD, and Robert L. Kramer, MD.

Others were William S. Myers, MD, Edmond; Robert L. Hampton, MD, Poteau; Louis E. Speed, MD, Duncan; Ollie W. Dehart, MD, Vinita; and Frank H. Cooper, MD, Grove.

THE OSMA HOUSE OF DELEGATES ADOPTED SIX CHANGES (APPROVED IN 1995) TO THE OSMA BYLAWS:

#1— Create a Finance, Personnel and Compensation Committee by adding a new Section 9.00 to Chapter X, as follows:

Section 9.00 Finance, Personnel, and Compensation Committee. *Five members of the Board of Trustees shall be appointed by the President to serve as a Committee on Finance, Personnel, and Compensation. One member of the committee shall be the Secretary-Treasurer.*

9.01 Duties. *The Committee shall advise and assist the Board of Trustees in making decisions regarding the financial affairs of the Association. In addition, it shall advise the Executive Committee on matters of personnel and personnel compensation. The Committee shall meet at least once in the first quarter of each calendar year to develop a Personnel and Compensation Report regarding employment conditions, fringe benefits, and future compensation for submission to the Executive Committee to utilize whenever it makes its yearly employee evaluations and establishes a new compensation base.*

#2— Change the name Hospital Medical Staff Section to Organized Medical Staff Section wherever the former appears in the current Bylaws.

#3— Eliminate the OSMA bylaws requirement that OSMA membership is open only to American citizens or those with the intent to become citizens by deleting from Chapter I, Section 1.00 the following: "...who are citizens or who have filed a declaration of intent to become citizens of the United States, and...." The section will then read as follows:

Section 1.00 Basic Requirements. *All membership in the Oklahoma Stsate Medical Association shall oroiginate in component societies. Except as otherwise provided in these bylaws, membership in a component society and in this Association shall be granted only to resident of Oklahoma who as Doctors of Medicine shall have received that degree from an educational institution approved by the Board of Trustees, and who are licensed by the Oklahoma State Board of Medical Licensure and Supervision. All members of component societies and of this Association are required to belong to the American Medical Association.*

#4— Limit the terms of Oklahoma AMA alternate delegates to three 2-year terms by addion a new Section 5.04 as follows:

Section 5.04 Term Limits. *Alternate Delegates to the House of Delegates of the American Medical Association may serve no more than three consecutive terms in that positon. (The counting of the three consecutive terms shall commence when the current Alternate Delegates have finished their current term.) Any unexpired term being filled by an appointed Alternate Delegate shall not be counted as one of the three consecutive terms.*

#5— Rescind the right of OSMA past presidents to vote in the OSMA House of Delegates unless they are an elected OSMA delegate or alternate, AMA delegate or alternate delegate, OSMA trustee or alternate trustee, or other OSMA position as stated in the Bylaws. The affected portions of Chapter IV will then read as follows (new language underlined):

Section 3.03 Quorum. *A majority of the certified and qualitied Delegates shall constitute a quorum at any annual or special meetings.*

Section 3.07 Privileges. *Only credentialed Delegates or their seated alternates, or chairs of Association councils and committees, acting in their official capacity, may introduce business into the House. The Speaker of the House of Delegates shall determine who has the privilege of the floor, provided that Past Presidents of the OSMA shall have full rights and privileges, with the exception of the right to vote, unless elected to the composition of the House as outlined in "Section 1.00 Composition" above.*

#6— Certify that all OSMA meetings are open to all members, per a newly created chapter that reads as follows:

Chapter XII
Open Meetings

It is the policy of the OSMA that all meetings of its Executive Committee,

Board of Trustees, Councils, Committees, Sections, etc., shall be open to all members of the Association, except for Executive Sessions of any official body for the purpose of discussing personnel or legal issues.

THE HOUSE ADOPTED THE FOLLOWING RESOLUTIONS:

#7 *(Substitute Resolution)*— Directing the OSMA to work with Oklahoma State Trauma System Advisory Committee to identify and assist at least one hospital to develop a Level I Trauma Center and work with the Oklahoma State Legislature to obtain appropriate funding.

#8— Recommending that the members of the Oklahoma State Board of Health meet with representatives of the Oklahoma City and Tulsa City/County health departments for the purpose of examining the mututal interest of public health.

#9— Requesting that Dr. Edward N. Brandt, Jr., review the first year experience of Oklahoma's Medicaid managed care system.

#10— Commending Edward N. Brandt, Jr., MD, for his efforts during this legislative session.

#16— Supporting the concept of physician-owned and operated credentialing services.

#19 *(Substitute Resolution)*— Asking the OMPAC board to distribute its contributions based on voting records of legislators on issues of importance to physicians, patients, and the public's general health; and that funds distribution reports and legislative records regarding priority medical issues be sent to OMPAC members yearly, and that universal support of OMPAC be recommended.

#21 *(Substitute Resolution)*— Recommending that the State of Oklahoma review its driver's license vision testing policies, consider retesting vision every ten years, and requesting the OSMA to begin an educational program for physicians to make them aware of the anonymous reporting methods of the Department of Public Safety.

#22— Recommending that primary care physicians refer patients with diabetes mellitus to ophthalmologists for annual retinopathy screenings.

#23— Urging the OSMA to encourage organ donation.

#25— Calling for the OSMA Council on Long Range Planning and Development to meet annually.

#26 *(Substitute Resolution)*— Recommending that audits of PLICO and the OSMA be conducted by the same firm to be selected mutually by the OSMA Board of Trustees and the PLICO Board of Directors.

#27— Recommending periodic joint meetings of the governing boards of the Oklahoma State Department of Health, the Oklahoma State Department of Mental Health and Substance Abuse, and the Oklahoma Health Care Authority.

#30— Resolving "that future PLICO and OSMA auditing firm changes be concurrent" and, further:

that the OSMA and PLICO change the auditing firm to Ernst & Young for

(continued)

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1996 and that future changes of auditing firms be initiated after:
1. The audit committee of either PLICO or OSMA boards have been notified of problems with the current auditing firm, by OSMA or PLICO members or directors; and
2. The concerned audit committee has by majority voted that a concern exists and the committee will arrange:
a) a presentation by PLICO or OSMA staff, members, or directors, representing both sides of the issue for the following House of Delegates annual meeting where...
(1) an informed House of Delegates can then, by the usual simple majority, direct the audit committees to *both* the PLICO and OSMA boards, by resolutions, to seek bids and pursue auditing firm changes.

#31— Recommending hepatitis B vaccine for 11- and 12-year-old children who have not previously received it.

#32— Recommending OSMA support efforts to educate pregnant women to make folic acid a part of their diets in order to prevent neural tube defects.

#33— Asking the OSMA to seek regulations or legislation to control the sale of nonhuman primates as pets, and to educate physicians, veterinarians, and the public on the health risks associated with nonhuman primates and the diseases they can spread to humans.

#38 *(Substitute Resolution)*— Recommending that as a condition of re-licensure, Oklahoma physicians "show proof of a current Physicians Recognition Award of the American Medical Association or the specialty equivalent," with this requirement becoming effective in the year 2000 and affecting a physician's re-licensure three years after the new initial license.

#39— Recommending that insurance companies provide full coverage for immunizations without co-payments or deductibles and that the same coverage be offered by the State Employees Insurance Program.

THE HOUSE DID NOT ADOPT THE FOLLOWING RESOLUTIONS:

#17— Calling for the education of medical students in defusing and debriefing.

#24— Resolving that OSMA bylaws changes go into effect immediately.

#36— Proposing studies to evaluate the safety of travel on Oklahoma highways, particularly with regard to multi-trailer rigs.

THE HOUSE REFERRED THE FOLLOWING RESOLUTIONS BACK TO THE BOARD:

#11— Regarding fee-splitting, its definition, and the reporting of physicians engaged in such activity.

#13 *(Substitute Resolution)*— Extending OSMA membership to appropriately qualified osteopathic physicians.

#18 *(Substitute Resolution combining original #18 & #20, entitled Medical Doctor as a Lobbyist)*— Directing the OSMA House of Delegates to "investigate increasing the medical expertise of the lobbying effort and to promote more grassroots physician involvement in legislative and political endeavors" and directing the Board of Trustees to "develop new ways to fund these endeavors.

#34— Asking OSMA to take the steps necessary to mandate the development of measures of quality of care and regulation of PPOs and HMOs and that those measures be made available to the members and physicians of those groups and to the public.

THE HOUSE REFERRED THE FOLLOWING RESOLUTIONS TO THE AMA:

#12— Asking the AMA to endorse reduced fees from all providers of continuing medical education for retired physicians

Official ballot count posted for elections

The official vote counts in this year's OSMA Annual Meeting elections were as follows (200 credentialed voters):

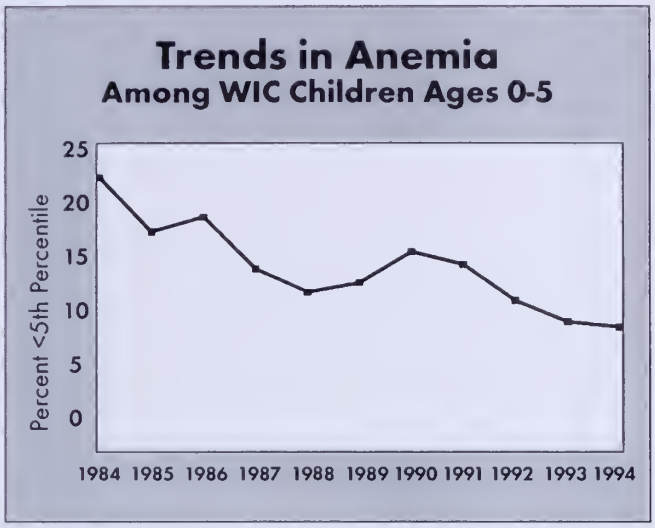
President-Elect
David Selby 190
Vice-President
Mary Anne McCaffree 151
Speaker of the House
Boyd Whitlock 192
Vice-Speaker of the House
Bruce Storms 190
AMA Delegates
(with 3 slots open, the 3 candidates were "elected" automatically)
Sara DePersio
Jay Gregory
Perry Lambird
Alternate AMA Delegates
Jack Beller 165
Greg Ratliff 130
Clarence Robison 113
Patrick Lester 90
PLICO Board
Kenneth Whittington 160
Billy Dale Dotter 145
James Funnell 142
Tim Smalley 137
Lynn Frame 131
Gary Paddack 130
Trustee, District VI
John Bozalis 189
Alternate Trustee, District VI
Royice Everett 182
Trustee, District XI
Jone Kendrick 181
Alternate Trustee, District XI
Robert Hayes 181
Trustee, District XII
Travis Foster 174
Alternate Trustee, District XII
Roy Doty 172

"We must all hang together, or assuredly we shall all hang separately."

—Who said it and when?
Answer on p 220

OSDH nutrition program successful in reducing childhood anemia rate

Between 1984 and 1994 there was a 14% decrease in the anemia rate among children who participated in the Oklahoma State Department of Health Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (Fig. 1). This decrease in the rate from 1984 (22.2%) to 1994 (8.1%) illustrates the trend in anemia reduction among WIC children over the ten-year period. The 1994 anemia rate for this group of children is approximately 2.75 times higher than the Healthy People 2000 goal to reduce iron deficiency to less than 3.0% among children ages 1 to 4.



Nutrition-related data is provided by the Pediatric Nutrition Surveillance System (PedNSS) for monitoring the nutritional status of low-income children. The system compiles birth weight, current height, weight, and hemoglobin and/or hematocrit from children birth to 5 years of age participating in WIC. The Centers for Disease Control and Prevention analyzes the data and reports the prevalence of anemia, short stature, underweight, overweight, and low birth weight in Oklahoma compared to national prevalence figures. The data are used to identify high-risk population groups and target appropriate nutrition interventions.

Other important Oklahoma PedNSS indicators include an increase in the prevalence of overweight in the WIC population from 7.3% in 1993 to 10.0% in 1994. Nationally, 10% of all WIC children were overweight in 1994. Oklahoma had proportionally fewer children reported as being underweight (1.6%) or low weight at birth (8.3%) in 1994 compared to the national figures for underweight (2.7%) and low birth weight (10.0%). Short stature (height-for-age ≤5th percentile) was more prominent in the state (13.0%) than reported nationally (10.8%).

There are several Healthy People 2000 objectives related to nutrition that are pertinent to the data obtained through PedNSS: First, reduce the prevalence of overweight to no more than 4.0% among children younger than 5 years; second, reduce growth retardation among low income children under 5 years of age to less than 10.0%; and third, reduce low birth weight to an incidence of no more than 5.0% of live births.

Beginning with prenatal visits and continuing through childhood, health care providers must focus on health promotion, health protection, and preventive services to achieve these objectives. Early identification and treatment of nutritional problems will help ensure optimal health for young children. For more information on the results of the PedNSS, contact either the Nutrition Division at 405-271-4476, or the WIC Service at 405-271-4676, x50014, Oklahoma State Department of Health.

Resolutions *(continued)*

who attend such courses, with the fee schedule being equal to or less than that for medical students and residents.
and to cease promotion and marketing of physician profiles in counties and states operating such services.

#15—Asking the Pharmaceutical Manufacturers Association to develop standard and uniform policies and procedures for certifying indigent patients for free-drug programs.

#28 *(Substitute Resolution)*—Asking the AMA to study the status of home care in the United States regarding the proliferation of Medicare costs, fraud, and abuse.

#29— *(Substitute Resolution)* Asking the AMA to work with Congress to allow more local control of home care agencies.

#35—*(Substitute Resolution)* Requesting counseling and mandatory testing of pregnant women for HIV.

THE FOLLOWING RESOLUTION WAS WITHDRAWN BY ITS AUTHOR AFTER LENGTHY DEBATE IN THE HOUSE:

#37— Asking the OSMA to reaffirm, at its annual meeting each year, the principles aspired to in the Hippocratic Oath.

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In Memoriam

1995

Henry Washington Harris, MD ..... June 2
Joan Kazanjian Leavitt, MD ..... June 13
Lucien Michael Pascucci, MD ..... July 2
Glen M. Floyd, MD ..... July 8
Marvin Homer Hird, MD ..... July 18
Yale Eugene Parkhurst, MD ..... July 27
Joe Leslie Duer, MD ..... August 25
William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Mollison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Theodore Sherman Williams, MD ..... February 22
John Walker Johnson, Jr., MD ..... March 13
Joseph Jules Maril, MD ..... March 16
Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3

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—Benjamin Franklin, at the signing of the Declaration of Independence, July 4, 1776

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THE LAST WORD

■ **Oklahoma Congressman J.C. Watts has gone to bat for** the IRS-beleaguered Oklahoma Allergy & Asthma Clinic. The clinic was informed last August, after an audit by the Internal Revenue Service, that they would have to change from a cash- to an accrual-based method of accounting; they did so at the beginning of the year. Congressman Watts has since written to Chairman William Archer of the House Ways and Means Committee in Washington, on behalf of the clinic and all other medical practices in Oklahoma. He explained that medical practices are unique, in that they deal with third-party payers, an increasingly unpredictable source of reimbursement, and have extremely large accounts receivable. He noted that he believes it is not the intent of Congress to force medical practices—which are not precluded from using the cash method by Section 448 of the IRS code—to change to the accrual method. Chairman Archer reported that after meeting with representatives of the Oklahoma clinic and learning of the concerns of other taxpayers, legislation (HR 3126) was introduced by Congressman Phil English. If it becomes law, the bill will require the IRS to bear the burden of showing that the cash method of accounting does not clearly reflect income, rather than requiring the taxpayer to prove that it does.

■ **G. Kevin Donovan, MD, director of the Oklahoma Program** in Bioethics at the University of Oklahoma Health Sciences Center–Tulsa, has been elected to chair the Bioethics Section of the American Academy of Pediatrics. William Sheehan, MD, also of OUHSC-T, has received the American Society of Clinical Pathologists Distinguished Service to Clinical Pathology Honoring Ward Burdick.

■ **Attorney General Drew Edmondson has ruled that law** enforcement officers have the authority to stop vehicles and issue citations for motorists who fail to use a car seat for children under age 4, or a car seat or seat belt for children age 4 or 5. The Oklahoma Safe Kids Coalition, with Sen. Ben Brown, requested the opinion after years of confusion over the state's child restraint law, passed in 1983.

■ **Available free from the Oklahoma Safe Kids Coalition** is a bi-lingual checklist addressing the ten most common unintentional injuries to children and how to prevent them. The 1996 version of the Family Safety Check may be obtained by calling 405-271-5695 or writing to the Children's Hospital of Oklahoma, Center for Injury Prevention, P.O. Box 26307, Oklahoma City, OK 73126.

■ **Jerry B. Vannatta, MD, has been named vice-president** for health affairs and associate provost by the University of Oklahoma Board of Regents. Dr. Vannatta has been serving in his post on an interim basis since July 1, 1995. He is among a group of medical professionals who have spearheaded a national campaign to enhance medical education in the United States. Their efforts led to the creation of a program which uses simulated patients to teach and evaluate medical students' interviewing and physical examination skills throughout medical school.

■ **The American Society for Aesthetic Plastic Surgery re**cently honored Mehdi N. Adham, MD, Oklahoma City, for his innovation in cosmetic rhinoplasty. Dr. Adham received the Best Scientific Exhibit Award at the society's annual meeting, where he demonstrated his new technique. His procedure prevents some of the significant complications of traditional procedures.

■ ***Be Informed: Questions to Ask Your Doctor Before You Have Surgery*** is the title of a new consumer brochure available now from the Agency for Health Care Policy and Research. The booklet will help patients make decisions about elective surgery by posing 12 key questions for them to ask their doctors. Bulk copies of the guide may be purchased from the U.S. Government Printing Office (stock number 017-026-00145-0: $11 per package of 20). Call the GPO order desk at 202-512-1800.

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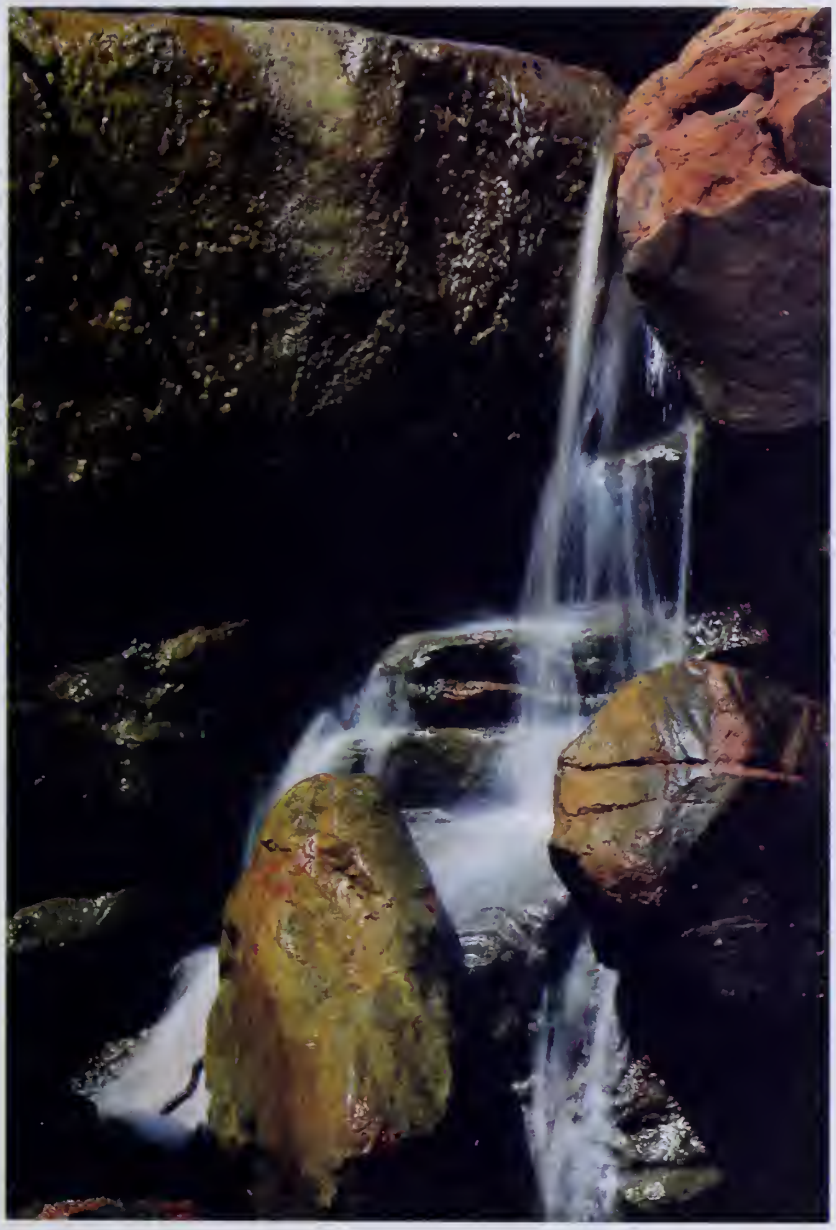

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JULY 1996 VOL. 89, NO. 7

EDITORIAL
Chauvinism Is Alive 229
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE
Stay Informed 231
D.L. Harper, Tulsa

SCIENTIFIC
Environmental Tobacco Smoke Exposure and Gastroesophageal Reflux in Infants with Apparent Life-Threatening Events 233
B. Alaswad, P.L. Toubas, J.E. Grunow; Oklahoma City

SPECIAL
The Experience of Psychiatric Residents with Disaster Support: A Descriptive Report 238
R.A. Sansone, E.J. Roman; Oklahoma City

Reflections on a Medical Mission to Rural Guatemala 242
M.T. Valley; Oklahoma City

Pramsgram: Depression After Delivery Among Oklahoma Mothers 244
Maternal & Child Health Service, Oklahoma State Department of Health

NEWS
Report of the President to the OSMA House of Delegates, 249... Report of the President-Elect to the OSMA House of Delegates, 250... Annual Meeting Scrapbook, 250...

DEPARTMENTS
Health Department, 253... Deaths, 254... In Memoriam, 255... Classifieds, 255... Instructions for Authors, 258... The Last Word, 260

ABOUT THE COVER

Cool, clear water... Robert M. Smith, MD, Oklahoma City, contributed this refreshing scene, a small brook gurgling its way across an unidentified field.

Art direction by Greg Gilpin, Graphic Arts Center, Oklahoma City.

"Being a doctor has allowed me to provide the best for my family."

DR. JANELLE GOETCHEUS, MEDICAL DIRECTOR, HEALTH CARE FOR THE HOMELESS PROJECT, INC., WASHINGTON, DC

Dr. Goetcheus says that raising her children in a health recovery facility for the homeless is one of the greatest gifts she has given them.

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Today, this center is part of Washington's Health Care for the Homeless Project. As medical director of both, Dr. Goetcheus is serving in an even greater capacity, reviving health and hope in those she serves.

The **Sharing the Care** program donates Pfizer's full line of single-source pharmaceuticals to medically uninsured, low-income patients of federally qualified centers like Health Care for the Homeless, in support of those who, like Dr. Goetcheus, are part of the cure.

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EDITORIAL

Chauvinism Is Alive

At the last OSMA Annual Meeting in Tulsa, the House of Delegates rescinded the bylaws requirement that OSMA members must be citizens or have filed a declaration of intent to become a citizen of the United States. Thus, the threshold of OSMA membership becomes residence in Oklahoma, possession of an MD degree approved by the OSMA Board of Trustees, and an Oklahoma license to practice medicine from the Oklahoma State Board of Medical Licensure and Supervision.

The elimination of an idea of allegiance to the United States as a membership criterion is an interesting doctrinal change in the OSMA fabric. Coming as it does in a time when there is widespread dissatisfaction with the U.S. government, the malcontents are building fertilizer bombs, and citizen militias and so-called "common law courts" are springing up everywhere, the change evokes wonderment as to its fundamental meaning and long-term effects.

Certainly it is true that the central tenets of the United States as a nation have always been questioned, with variable intensity and from various sources, from the time of national inception in the eighteenth century. It is also true that at the government's own fealty to the principles of the Founding Fathers has been eroded away by socialistic philosophies and political opportunism. It has always been true that many US citizens never completely trust the U.S. government.

Thus we have come to a time when the reason for existence of the medical society has changed in response to the change in our government. Whereas a hundred years ago medical societies were mostly an intellectual conclave to improve the practice of medicine, now they have become principally a reactive foil to governmental efforts to control modern practice.

That these changing times have put the medical profession under siege can be perceived as being largely the result of our own disunity and our innate tendencies to chauvinism. We physicians—like all humans—have a blind spot in the reason/emotion synapses that allows our undue partiality for certain human cliques to cloud our logical responses. Our personal chauvinism—to kinfolk, to clinic partners, to specialty, to religion or race, is as difficult for us to see as is our own inion. We seldom glimpse it.

Our innate chauvinism, interacting with the government's more fascistic stance toward medical practice, probably explains the House of Delegate's action in rescinding the citizenship requirement of OSMA membership. It remains to be seen how the "Law of Unintended Consequences" will play out in reference to this action, but we physicians must now look again to our basic ethical principles for the essentials of our future moral behavior.

It is now timely to recall that the ultimate purpose of medical societies and associations is to improve the health and the quality of life of those people we call "patients." The purpose of the association is not to protect the income or prerogatives of physicians, except insofar as those powers are a necessary element of the patients' well-being. The patients' medical needs must forever take priority over the political agendas of the rebels among us.

The higher goal must be kept in mind as the association implements the new membership criterion.

Ray V. McIntyre, M.D.

Our personal chauvinism... is as difficult for us to see as is our own inion.

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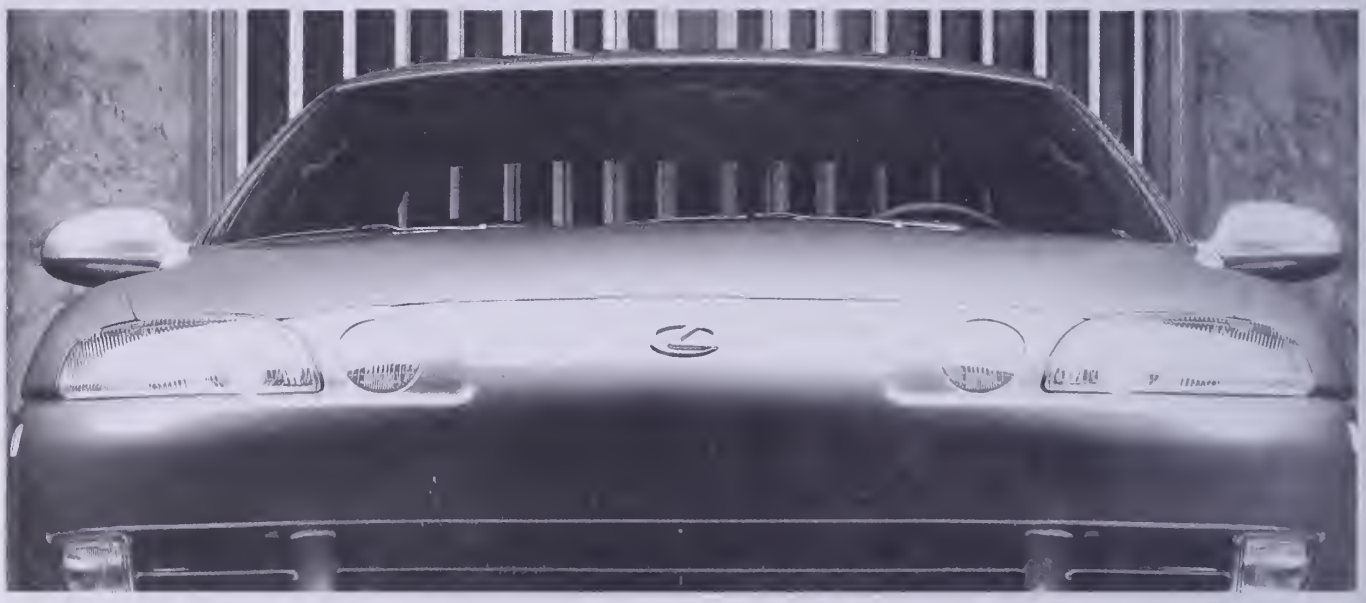

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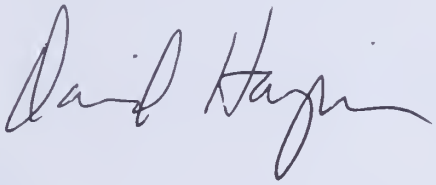

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AIR FORCE

Environmental Tobacco Smoke Exposure and Gastroesophageal Reflux in Infants with Apparent Life-threatening Events

Boshar Aloswod, MD; Poul L. Taubos, MD; Jahn E. Grunaw, MD

Objective: Ta study the hypothesis that enviranmental tabacca smake exposure in infants diagnased with on opporent life-threatening event (ALTE) could be o contributing factar ta gostraesaphogeol reflux. Methads: Thirty-faur palygraphic recordings of combined esaphageal pH study and respiratian in infonts with ALTE, age 4.1 ± 4.9 manths, ronge 0.4–27 manths, were studied. This graup of children had uncamplicated perinatal histary, na cangenital anamalies, na neurapathalagy, and na drug expasure. A written questiannaire was administered ta the porents ta determine the fallawing: environmentol voriobles, degree of enviranmental tabacca smake (ETS) exposure (number af cigarettes/doy), ond nutrition (breast vs. battle feeding). Results: There was a strang carrelation between pH study parameters and ETS exposure ($p < 0.005$). The esaphageol pH porometers were markedly elevated in the ETS-exposed graup and in this graup there wos o lineor relatian between the number of cigorettes smaked per doy ond reflux index, os well as reflux >5 min/hr ($p < 0.05$, $r = 0.46$). Nursing mothers were less likely ta be smokers (18.2% vs. 34.0%). The only significont respiratary finding was in the obstructive/mixed apnea graup; there was strang assaciotion between ETS exposure ond high reflux index ($p < 0.05$). Conclusion: We canclude that ETS exposure represents o significont cantributing factar ta GER. Pediatricians shauld systematically ask questians abaut the infant enviranment, explain the risk of ETS exposure to the coretoker, and recammend thot children should remoin in o smoke-free environment.

From the University of Oklahoma Health Sciences Center Department of Pediatrics, divisions of Pediatric Gastroenterology and Nutrition, and Neonatal-Perinatal Medicine, Oklahoma City, Oklahoma.

The data in this paper were presented at the North American Society of Pediatric Gastroenterology and Nutrition (NASPGAN) Annual Meeting, November 2-4, 1995, in Chicago.

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Environmental tobacco smoke (ETS) consists of sidestream smoke and exhaled mainstream smoke. Several studies have reported a significant association between the prevalence of respiratory illnesses in infants and children under the age of two and exposure to ETS. Parental smoking has also been identified as a risk factor for infantile apnea and sudden infant death (SIDS), as well as persistent middle ear effusions in young children.[1-3]

ETS contains:

- Pharmacological active agents such as nicotine
- Irritants such as glycoproteins and nitrosamines (carcinogens)
- Toxins such as carbon monoxide, ammonia, and thiocyanate[4,5]

Concentrations of most of these materials are even higher in sidestream than in mainstream smoke.[6] Thus, infants exposed to ETS will react to the pharmacologic substances contained in the smoke.[7] If the mother smokes while breast feeding, the infant's exposure to nicotine is increased through tobacco smoke inhalation and nicotine ingestion via breast milk. Nicotine is excreted into

Table 1. Influence of ETS Exposure on Esophageal pH Study Parameters

Mean ± SD	Reflux (per hr.)	Reflux (> 5 min/hr.)	Acid Clearance (min.)	Longest Episode (min.)	Reflux Index (%)
Smoke Exposed n=20 male 9, female 11	3.15±1.67	0.53±0.32	2.9±1.45	41.35±29.17	18.19±9.25
Non-Exposed n=14 male 7, female 7	1.81±1.08	0.19±0.21	1.9±1.04	17.92±19.62	7.62±5.89
p value	0.005	0.001	0.018	0.005	0.001

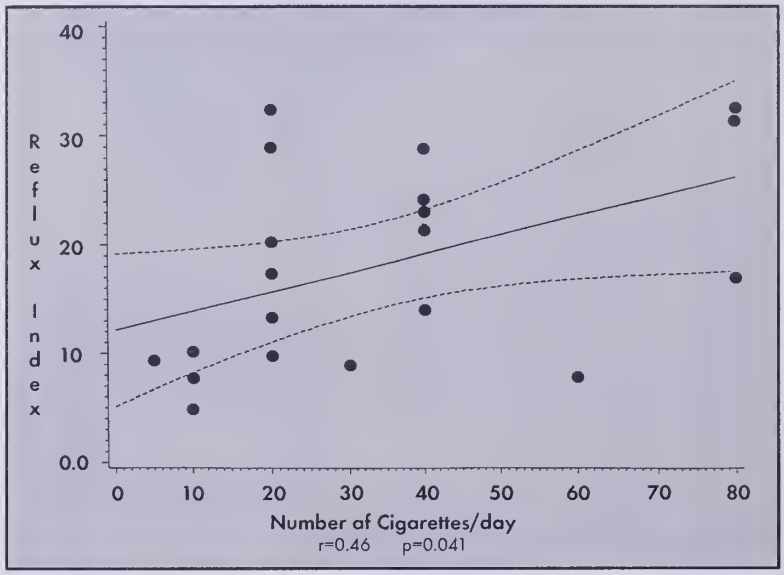


Figure 1: Influence of number of cigarettes per day smoked by family members on reflux index.

breast milk, with milk concentrations exceeding those of serum in a 2.9:1 ratio.[8] In some cases, when nursing mothers smoked up to 20 cigarettes or more a day, their neonates may develop signs and symptoms of nicotine poisoning: restlessness, vomiting, diarrhea, tachycardia, recurrent apnea, refusal to suck, apathy, and flaccidity, as well as grayish skin color.[9]

Cotinine, the main metabolite of nicotine having one-fifth the pharmacologic activity of nicotine, was recovered from urine and saliva in infants and children who had been exposed to ETS.[10] Following nicotine inhalation, or oral administration, a half-life of approximately two hours has been reported in adults.[8] Neither number of cigarettes smoked nor smoking-machine delivery predict daily exposure to nicotine.[11]

Mainstream tobacco smoke is associated with gastroesophageal reflux (GER). Numerous studies demonstrated that the mechanisms of acid reflux during cigarette smoking were mainly due to the inhibitory effect of nicotine on the lower esophageal sphincter (LES) and/or an abrupt increase in intra-abdominal pressure (cough, deep inspiration) or alteration of thoracoabdominal pressure relations (wheezing). It has been known that cigarette smoking is a common reversible cause of GER.[12-15]

We hypothesize that ETS may cause or aggravate GER in infants and children diagnosed with apparent life-threatening events (ALTE). In 1986 the National Institutes of Health (NIH) Consensus Development Conference on Infantile Apnea and Home Monitoring referred to apnea of infancy as a type of ALTE, and the definition of ALTE by this conference is "an episode that is frightening to the observer and is characterized by some combination of apnea (central or occasionally obstructive), color change (usually cyanotic or pallid, but occasionally erythematous or plethoric), and marked change in muscle tone (usually marked limpness, choking, or gagging). In some cases the observer fears that the infant has died."[16]

Methods

The study was approved by the Institutional Review Board of the University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma.

Patients: During a period of 5 years (January 1990–December 1994) 173 infants were admitted to Children's Hospital of Oklahoma (CHO) with a diagnosis of ALTE and underwent a combined 24-hour esophageal pH monitoring and respiratory activity study. Due to the duration of the study, and also to provide maximum safety to the infants, hospitalizations were required.

Questionnaire: Parents or guardians received a consent form by mail and were sent a questionnaire.

At the time of the study (combined esophageal pH and respiratory activity):

1. How many people lived with the infant?
2. How many people in the household smoked?
3. How many cigarettes were smoked a day by all the smokers in the household?
4. Was the mother a smoker? How many cigarettes a day?
5. What kind of residence did the child live in?
6. How many rooms in the residence?
7. What kind of ventilation system in the residence?
8. Was the baby breast fed?

We obtained 64 answers. Of these infants, 30 were excluded due to complicated perinatal history, congenital anomalies, neuropathology, and drug exposure. Subsequently, the combined esophageal pH/respiratory activity (performed at the

bedside) of 34 infants included in the study were reviewed and recorded (Table 1).

Esophageal pH study: We examined the association between the degree of ETS exposure and decreased lower esophageal pH or any changes in the esophageal pH study parameters,[17] using the current accepted standards of esophageal pH study. Five parameters were recorded:

1. Number of GER episodes
2. Number of GER episodes >5 minutes per hour
3. Esophageal acid clearance time (minutes)
4. Longest episode of GER (minutes)
5. GER index, time esophageal pH <4%

Polygraphic respiratory activity study: We examined the association between ETS exposure and apnea by reviewing the polygraphic respiratory activity. Variables studied:[18]

1. Apnea index (rate of apneic events per hour)
2. Short and long central apnea
3. Short and long obstructive/mixed apnea
4. Percent of periodic breathing
5. Time spent at oxygen saturation <90%

Statistical Analysis

Data were entered in a computer spreadsheet/statistical package (SigmaPlot). Analysis of variance, rank test, correlation, and regression were the basic statistical means to analyze the data.

Results

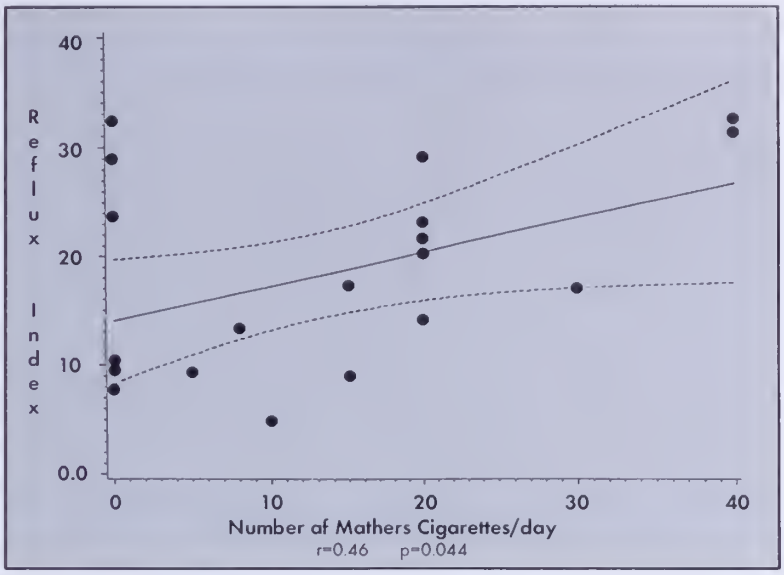
Thirty-four infants age 4.1 ± 4.9 months, gestational age 38.4 ± 2.9 weeks were included in the study. Twenty were ETS-exposed, 9 males and 11 females; 14 were not ETS-exposed, 7 males and 7 females. In Table 1 there is a strong correlation between esophageal pH study parameters and exposure to ETS. The esophageal pH parameters were markedly elevated in the ETS-exposed group.

In the ETS-exposed group there was linear relation between the number of cigarettes smoked per day by the mother or other adults and reflux index, as well as reflux >5 min. per hour.

In the group of the 22 infants diagnosed with obstructive/mixed apnea, 14 infants were ETS-exposed and 8 infants were not ETS-exposed. There was an obvious increase in GER index in the ETS-exposed group (p=0.003).

Of the seven infants diagnosed with central apnea, 3 infants were ETS-exposed, and 4 infants were not. In this group the correlation between ETS exposure and high reflux index did not reach statistical significance (p=0.147).

Among the five infants who had no apnea, 3 infants were ETS-exposed and 2 were not. In this group the correlation between ETS exposure and high reflux index did not reach statistical significance (p=0.136).



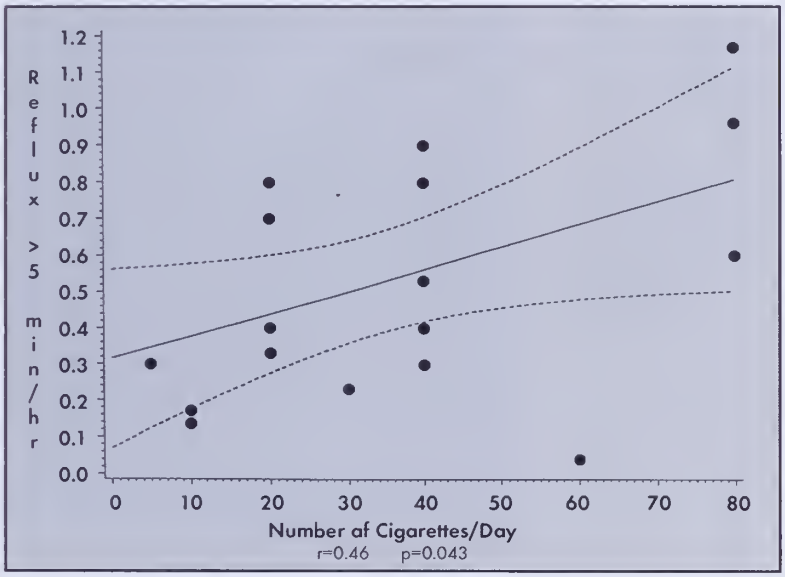


Figure 2 (top): Influence of number of cigarettes per day smoked by mothers on reflux index.

Figure 3 (bottom): Influence of number of cigarettes per day smoked by family members on reflux >5 min. per hour.

In regard to the maternal smoking habits and the infant's feeding mode, 53 mothers bottle-fed their infants in this group, 18 mothers were smokers (34%), 11 mothers were nursing their infants in this group, and 2 mothers were smokers (18%). The likelihood of nursing mothers being smokers is 0.53, although that did not reach statistical significance (p=0.3).

Discussion

In this retrospective study, we demonstrated a strong correlation between ETS exposure and GER in infants presenting with ALTEs using esophageal pH monitoring as the current accepted diagnostic tool.[19] Our technique in collecting the information by sending a questionnaire to the parents was confidential. We believe this has minimized

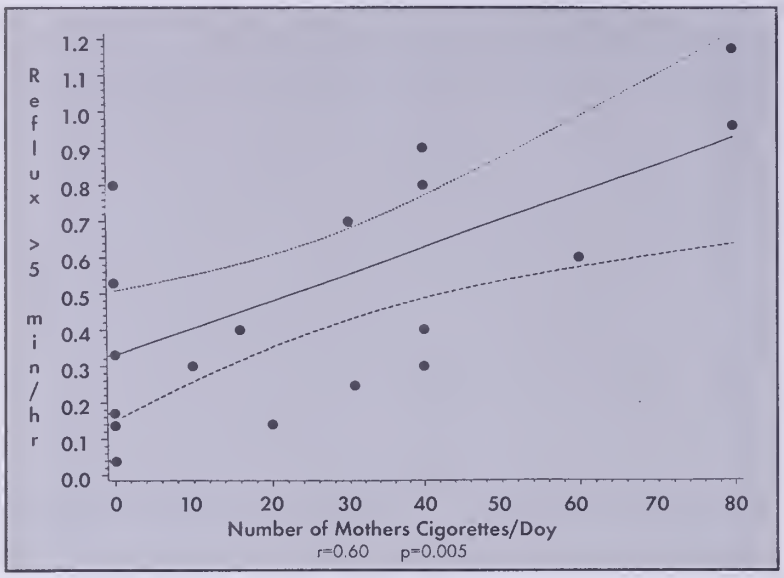
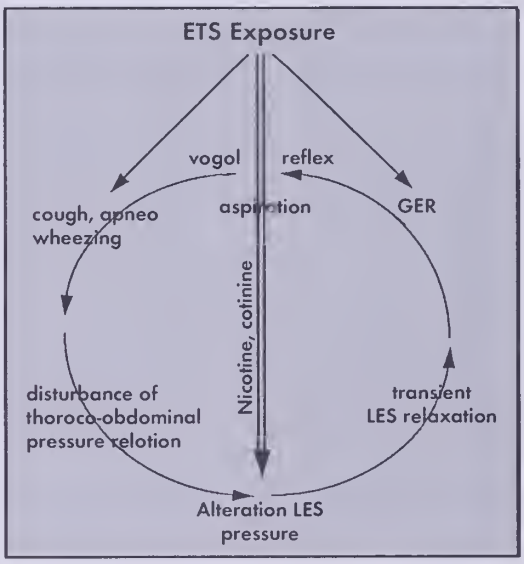


Figure 4 (above): Influence of number of cigorettes per doy smoked by mothers on reflux >5 min. per hour.

Figure 5 (right): Vicious cycle of ETS exposure. From references 7, 10, 12, 13, 14, 15, 26, 27, ond reference 28 (with permission ond modificotion).



the bias and self-consciousness which would have resulted from a direct interview.

Many authors have demonstrated an association between GER and ALTE, although a direct cause-and-effect relationship is difficult to document.[20] To our knowledge, this is the first study that specifically addresses the relationship between ETS exposure and GER in infants presenting with ALTEs who had uncomplicated perinatal history, no neuropathology,[21] no congenital anomalies,[22] and no drug exposure.[23] In the adult literature, Kadakia et al demonstrated the effect of cigarette smoking on GER by 24-hour ambulatory esophageal pH monitoring. They implicated many mechanisms including the effect of nicotine. When they took into account a nicotine wash-out period, they concluded that cessation of cigarette smoking is

Table 2. Influence of ETS on GER Index in Obstrutive/Mixed Apneo Group

Exposed to ETS n= 14/22 (64%)		Not Exposed to ETS n = 8/22 (36%)	
GER Index>6	GER Index <6	GER Index>6	GER Index <6
n=14/14	n= 0/14	n=4/8	n=4/8
100%	0%	50%	50%

a necessary life-style modification in patients with GER.[15] Infants and children of parents who smoke inhale the same amount of nicotine as if they themselves smoked up to 150 cigarettes yearly.[7] Shabib et al demonstrated that ETS exposure is a risk factor for esophagitis in children less than 18 years of age (mean age 11.9 ± 9.2 years).[24] Unfortunately, many pediatricians still do not take ETS exposure as a significant contributing factor to GER, although questions regarding the infant environment is part of the pediatrician's GER questionnaire.[25] The mechanism of how ETS exposure may cause or aggravate GER is multifactorial. Just as GER can cause respiratory symptoms, the converse is also correct. Respiratory disorders or symptoms can provoke GER when it disturbs the thoraco-abdominal pressure relation (Fig. 5).

The correlation is statistically significant between ETS exposure and a high GER index in the obstructive/mixed apnea group (p=0.003) compared to the central apnea group, as well as the no apnea group. We concluded that in infants who were exposed to ETS and presented with obstructive/mixed apnea, the apneic obstructive events could be GER mediated (Table 2).

Nursing mothers are less likely to be smokers (18.2% vs. 34%), although that was not statistically significant. It is not clear to us if a maternal smoking habit may affect the infant's feeding mode. The study dealt with a relatively small number of infants due mainly to patient address change and high exclusion criteria. To prevent these difficulties, inherent in such a study, a multicenter approach is warranted.

Conclusion

Environmental tobacco smoke (ETS) exposure represents a significant contributing factor to GER in infants with ALTE.

ETS exposure represents a real hazard to infants and children. Oklahoma leads the nation in the proportion of women who smoke, and is 6th in the population in the child-bearing ages.[29] Infants and young children are frequently exposed to ETS (48% of infants consulting Children's Hospital of Oklahoma, and up to 70% of infants studied for infantile apnea).

Infants exposure to ETS is still not taken seriously by many physicians. In order to prevent morbidity due to smoke exposure, pediatricians should systematically ask questions about the infant environment, explain the risk of ETS to the caretaker, and recommend that children should remain in a smoke-free environment. J

Acknowledgment

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References

1. Involuntary smoking: A hazard to children. Committee on Environmental Hazards. *Pediatrics* 1986;77(5):755-757.
2. Klonoff-Cohen HS, Edelstein SL, Lefkowitz ES, et al. The effect of passive smoking and tobacco exposure through breast milk on sudden infant death syndrome. *JAMA* 1995;273(10):795-798.
3. Active and passive tobacco exposure: A serious pediatric health problem. Commentary. *Pediatrics* 1994;94(5):750-751.
4. Barnes DB, Hanauer P, Slade J, Bero L, Glantz S. Environmental tobacco smoke: The Brown and Williamson documents. *JAMA* 1995;274(3):248-253.
5. Mothers who smoke and their children. Report of committee appointed by Action on Smoking and Health. *Practitioner* 1980;224:735-739.
6. The Health Consequences of Smoking: A report of the Surgeon General, Chapter 7: Passive Smoking. US Department of Health and Human Services, Public Health Service, 1984.
7. College Reports. Smoking and the young: Summary of a report of a working party of the Royal College of Physicians. Jr Coll Physicians (London) 1992;26:352-356.
8. *Nicotine*. Drug Evaluation Monographs. Micromedex, Inc., 1974-1995.
9. Abel EL. Smoking and pregnancy. *Journal of Psychoactive Drugs* 1984;16(4):327-338.
10. Greenberg RA, Haley NJ, Etzel RA, Loda FA. Measuring the exposure of infants to tobacco smoke (Nicotine and Cotinine in urine and saliva). *N Engl J Med* 1984;310(17):1075-1078.
11. Benowitz NL, Kuyt F, Jacobb III P. Circardian blood nicotine concentrations during cigarette smoking. *Clin Pharm Ther* 1982;32(16):758-764.
12. Kahrilas PJ, Gupta RR. Mechanisms of acid reflux associated with cigarette smoking. *GUT* 1990;31(1):4-10.
13. Stanciu C, Bennett JR. Smoking and gastroesophageal reflux. *British Medical Journal*, 1972; Sept., pp 793-795.
14. Rattan S, Goyal RK. Effect of nicotine on the lower esophageal sphincter. *Gastroenterology* 1975;69:154-159.
15. Kadakia SC, Kikendall JW, Maydonovitch C, Johnson LF. Effect of cigarette smoking on gastroesophageal reflux measured by 24-hour ambulatory esophageal pH monitoring. *American Journal of Gastroenterology* 1995;90(10):1785-1790.
16. NIH Consensus Development Conference on Infantile Apnea and Home Monitoring, Sept. 29 to Oct. 1, 1986. *Pediatrics* 1987;79(2):292-299.
17. Vandeplas Y, Sacre-Smits I. Continuous 24-hour esophageal pH monitoring in 285 asymptomatic infants 0-15 months old. *J Pediatr Gastroenterol Nutr* 1987;6(2):220-224.
18. Guilleminault C, Ariagno R, Korobkin R, et al. Mixed and obstructive sleep apnea and near miss for sudden infant death syndrome. 2. Comparison of near-miss and normal control infants by age. *Pediatrics* 1979;64(6):882-891.
19. Dalt LD, Mazzoleni S, Montini G, Donzelli F, Zacchello F. Diagnostic accuracy of pH monitoring in gastroesophageal reflux. *Arch Dis Child* 1989;64:1421-1426.
20. See CC, Newman LJ, Berezin S, et al. Gastroesophageal reflux-induced hypoxemia in infants with apparent life-threatening events. *Am J Dis Child* 1989;143(8):951-954.
21. Ross MN, Haase GM, Reiley TE, Meagher DP. The importance of acid reflux patterns in neurologically damaged children detected by four-channel esophageal pH monitoring. *J Pediatr Surg* 1988;23(6):573-576.
22. Corhally MT, Muftah M, Guiney EJ. Nissen fundoplication for gastroesophageal reflux in repaired tracheo-esophageal fistula. *European J Pediatr Surg* 1992;2(6):332-335.
23. Vandenplas Y, Wolf D, Sacre I. Influence of xanthines on gastroesophageal reflux in infants at risk for SIDS. *Pediatrics* 1986;77(6):807-810.
24. Shabib SM, Cutz E, Sherman PM. Passive smoking is a risk factor for esophagitis in children. *J Pediatr* 1995;127(3):435-437.
25. Orenstein SR, Cohn JF, Shalaby TM, Kartan R. Reliability and validity of an infant gastroesophageal reflux questionnaire. *Clin Pediatr* 1995, August, pp 472-484.
26. Boyle JT, Altshuler SM, Patterson BL, Pack AL, Cohen S. Reflex inhibition of the lower esophageal sphincter (LES) following stimulation of pulmonary vagal afferent receptors. *Gastroenterology*, May 1986, p 1353.
27. Scott RB, O'Loughlin EV, Gall DG. Gastroesophageal reflux in patients with cystic fibrosis. *Journal of Pediatrics* 1985;106(2):223-227.
28. Gastroesophageal reflux. Chapter 26. Susan R. Orenstein. *Textbook of Pediatric Gastrointestinal Disease*. Wylie Hyams, 1993, p 346.
29. Brandt EN, Broyles RW, Hann NE. Women smokers. The tragedy is, Oklahoma is number one. *Journal Oklahoma State Medical Association*, 1995;88:24-27.

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The Experience of Psychiatric Residents with Disaster Support: A Descriptive Report

Randy A. Sansone, MD; Emmanuel J. Roman, MD

This study was designed to explore the experiences and reactions of psychiatric residents who provided support to victims at the Oklahoma City bombing site. Participants were seven residents who were surveyed eight months following the disaster. Results describe respondents' perceptions of stress and support factors at the time of participation as well as post-disaster symptoms. In the aftermath, only one respondent reported stress symptoms suggestive of a psychiatric diagnosis. Respondents reported a decrease in symptoms one month after the disaster. The majority acknowledged that they would participate in disaster relief in the future. These data confirm the importance of proper preparation, support, and debriefing for medical personnel attending a disaster as well as the probability that symptomatic reactions will be time-limited for most individuals.

Several studies have explored the psychological impact of disaster on rescue workers,[1-5] although few have examined the physician's experience of providing support to victims of disasters. In the one study we could locate, medical students were surveyed by investigators following the death of 95 football spectators at the Hillsborough football field.[6] However, we are aware of no other studies examining the personal experience of physicians in providing support to victims of disaster. The following study was undertaken to explore the experiences and emotional reactions of psychiatric residents who, as volunteers, provided onsite support to victims of the Oklahoma City bombing in April of 1995.

Direct correspondence to: Randy A. Sansone, MD, 3223 E. 31st Street, Suite 201, Tulsa, OK, 74105.

Method

Subjects. Subjects were 7 residents, 5 males and 2 females, in the Department of Psychiatry at the University of Oklahoma College of Medicine–Tulsa, who voluntarily provided onsite support to victims of the Oklahoma City bombing. Subjects ranged in age from 27 to 41 years with a mean age of 34 years. Five were married. There was an even distribution of respondents by post-graduate year of training (two first-year, two second-year, two third-year, one fourth-year). Six participants had no previous disaster exposure (one had survived an earthquake) and none acknowledged any previous disaster training. Two had friends or relatives who were directly affected by the disaster.

Procedure. Eight months following the disaster, all residents who provided support to disaster victims were sent a questionnaire which was developed by the authors. The questionnaire began by exploring demographic data then focused on respondents' experience as a professional in a disaster. The initial four questions, which contained multiple items, were preceded by the phrase, "To what degree...." Response options to these questions were formatted in Likert style, ranging from, "not at all," to "mild degree," "moderate degree," and "high degree." These initial questions explored respondents' rationales for participating at the disaster site, factors that fa-

cilitated professional functioning at the site, experiences that were personally difficult to deal with, and factors which in the aftermath were noted to facilitate professional functioning at the site. Subjects were then asked about any personal symptoms related to the disaster experience and whether or not symptoms had persisted longer than one month. The final three questions were open-ended and explored difficult personal aspects of the experience, whether or not respondents would participate in such an experience in the future, and advice respondents would give to colleagues who might engage in a future disaster experience. Although all eight residents responded, one questionnaire could not be included in the data summary because of incomplete information.

Results

Items with Likert-style responses were analyzed as follows. "Not at all" was scored one; "mild degree" two; "moderate degree" three; and "high degree" four. Scores for each question were then summed and divided by the number of respondents.

With regard to rationales for attending to victims at the disaster site, respondents rated altruistic factors as most important (3.9), followed by the desire to gain clinical experience (3.3), the need to feel personally effective by helping others (3.0), and the desire to obtain a personal emotional experience (2.1). Peer or colleague influences or pressure were rated low (1.9), as well as curiosity (1.1) and outside pressures to participate (0.6).

In identifying factors that were helpful to respondents at the time they were providing support to victims, emotional support and briefing by the faculty were rated highest (3.1 for both). Didactic preparation for disaster intervention by faculty was of moderate benefit (2.4). Previous didactic information on disasters and previous trauma experience (personal or professional) were rated low (1.6 and 1.3, respectively).

In disclosing those issues or dynamics that were personally challenging at the time of disaster intervention, respondents most often acknowledged feelings of helplessness (3.3). The visual impact of observed trauma (2.9), unpredictable social and group chaos (2.7), and the regulation of personal feelings and reactions (2.4) were rated moderately important. Existential fears (i.e., "this could happen to me") (1.7), concerns about developing post-traumatic stress disorder (1.3), and concerns about personal safety or legal liability (both 1.0) were of less concern.

In reviewing in the aftermath those factors that had a positive influence on professional functioning at the disaster site, clinical guidance by the faculty was reported as most valuable (3.3), followed by emotional support by fellow residents and colleagues (3.0). Briefing (pre-event preparation) and debriefing (post-event) by the faculty were moderately important (2.9 and 2.7, respectively), followed by the provision of didactic information (2.6), and past personal and professional experiences (2.1).

A majority of subjects reported symptoms in the aftermath of the disaster experience (n=5). Fifteen of 32 symptoms were acknowledged. Three respondents reported depressed mood following the experience. Three reported distress to cues that resembled the bombing event. Three temporarily avoided thoughts and feelings associated with the disaster. Two identified feelings of guilt associated with the experience and two reported temporary difficulty with functioning either at home or at work. One respondent endorsed eight symptom items which was suggestive of a psychiatric diagnosis.

Two respondents reported symptoms that persisted for longer than one month following the disaster. Of these two, one reported depressed mood as well as avoidance of thoughts, feelings, or conversations associated with the experience and feelings of guilt. The other reported concentration difficulties and a restricted affect. In reviewing the patterns of symptom endorsement, neither respondent qualified for a diagnosis of clinical depression or post-traumatic stress disorder.

In describing their most difficult experiences, respondents most often identified feelings of helplessness and chaos at the site (n=3). Other difficult experiences were painful recollections of one's own previous disaster experience (n=1), identification with the victim's family at the scene of the disaster (n=1), death notification (n=1), and an indirect social association with one of the victims (n=1).

Despite the stress of the disaster, six respondents acknowledged that they would professionally participate in a disaster experience again. One candidly commented, "I don't think I would participate again if given the chance because the experience was too painful." In regards to advice to colleagues who might participate in a future disaster, respondents recommended frequent debriefing, group support, limiting exposure and/or working hours, the acceptance of personal limitations, and realistic goals.

Discussion

To our knowledge, this is the first study to explore responses of psychiatric residents to disaster intervention. These individuals' voluntary

participation was strongly motivated by altruistic factors, the desire to gain clinical experience, and a need to experience personal effectiveness by helping others. These rationales might be interpreted as ideal motivations for many individuals in the field of health care.

Among the various factors seen as helpful to respondents at the site, emotional support and briefing by faculty were identified as most useful. Emotional support for workers at the disaster site has been confirmed by other investigators[7] as well as briefing or effective preparation of workers prior to the disaster.[8,9]

With regard to issues personally difficult to deal with, feelings of helplessness ranked highest, a finding which has also been noted by others.[1,7] The visual impact of trauma was also ranked high by respondents. Indeed, exposure to the grotesque has been noted as particularly stressful for disaster workers,[1] particularly the handling of dead bodies.[10-14] Ursano and McCarroll[15] describe the traumatization of disaster workers as multi-sensorial, through viewing, smelling, and touching dead bodies.

Unpredictable social or group chaos was noted by respondents as another difficult factor at the disaster site. Indeed, role definition for disaster workers, which provides some level of structure to the disaster experience, has been stressed by investigators.[2,3]

In the aftermath of the disaster experience, emotional support as well as briefing (pre-preparation) and debriefing (post-disaster intervention) were identified as most helpful. Debriefing is noted as a critical aspect of intervention by most investigators. The style of debriefing varies and different approaches have been described including psychoanalytic,[16] cognitive,[4,5,17] and didactic[9] intervention, as well as encouraging participants to express feelings, enhance coping strategies, and provide feedback to each other.[7,9,13,18] Some investigators suggest specific models of debriefing, such as the Multiple Stressor Debriefing Model,[19] Traumatic Event Debriefing,[20] and Critical Incident Stress Debriefing.[21] These latter approaches generally entail several stages of treatment and multiple types of therapeutic techniques. It is important to note that some rescue workers avoid debriefing, when optional, because of concerns about mental-health stigmatization.[6,10]

Although the majority of participants in this study acknowledged some disaster-related symptoms (n=5), only one subject reported sufficient symptoms (a combination of depressive and post-traumatic stress disorder symptoms) to suggest a psychiatric diagnosis. After four weeks, symptoms decreased in all subjects and only two reported continuing symptoms. These findings are consistent with those of other investigators who report short-term dysphoria among rescue workers in the aftermath of disaster[12] and a diminution in symptoms over time.[13,22] However, there appears to be a subgroup of vulnerable individuals who are at risk for developing sustained responses including those with less "hardy personalities,"[7,8] pre-existing stressors,[8] and recent losses.[8] As expected, the most common psychopathological diagnosis among rescue workers in the aftermath of disaster is post-traumatic stress disorder.[23,24]

The majority of subjects (six of seven) acknowledged that they would participate in future disaster support. This finding is consistent with that of Berah, Jones, and Valent,[25] who reported that despite considerable stressors, a volunteer mental health team assisting at bushfires in Australia had greatly benefited on a personal level from the experience. However, one respondent in this study poignantly stated, "I don't think I would participate again if given the chance because the... experience was too painful."

The strengths of this study include its unique focus, the combination of both Likert-format and open-ended questions, and the response rate. The limitation in this study is the use of a self-report measure, which was thought to be essential to protect confidentiality as subjects were being studied by colleagues.

In conclusion, this study explored psychiatric residents' experience of attending victims at a disaster site. Although most respondents reported disaster-related symptoms, only one described symptoms sufficient to suggest a psychiatric diagnosis. Symptoms receded over one month such that no participant acknowledged meaningful impairment. Most participants felt they would be willing to participate in future disaster experiences and their recommendations for future disaster workers were consistent with those of others. The study of the effects of disasters on support workers is of considerable importance, particularly the examination of those factors which predict psychological sequelae. Although this cohort fared well in the aftermath, they were individuals who were psychologically oriented at the outset and reasonably well prepared for the experience. Future research with various subject groups may help us to better understand the factors that result in psychological symptoms or other risks to disaster workers. J

References

1. Brandt GT, Fullerton CS, Saltzgaber L, Ursano RJ. Disasters psychologic responses in health care providers and rescue workers. *Nord J Psychiatry* 1995;49:89-94

2 Hodgkinson PE, Shepard MA. The impact of disaster support work. *J Trauma Stress* 1994;7:587-600.
3 Dunning CM, Silva MN. Disaster-induced trauma in rescue workers. *Victimology* 1980;5:287-297.
4 McCammon S, Durham TW, Allison EJ, Williamson JE. Emergency workers' cognitive appraisal and coping with traumatic events. *J Trauma Stress* 1988;1:353-372.
5 Paton D. Disasters and helpers: psychological dynamics and implications for counseling. *Couns Psychol Q* 1989;2:303-322.
6 Kent G, Kunkler AJ. Medical student involvement in a major disaster. *Med Educ* 1992;26:87-91.
7 Fain RM, Schreier RA. Disaster, stress and the doctor. *Med Educ* 1989;23:91-96.
8 Bradford R, John AM. The psychological effects of disaster work: implications for disaster planning. *J Roy Soc Health* 1991;111:107-110.
9 Dunning C. Mental health sequelae in disaster workers: prevention and intervention. *Int J Ment Health* 1990;19:91-103.
10 McCarroll JE, Ursano RJ, Wright KM, Fullerton CS. Handling bodies after violent death: strategies for coping. *Am J Orthopsychiatry* 1993;63:209-214.
11 Alexander DA, Wells A. Reactions of police officers to body-handling after a major disaster: a before-and-after comparison. *Br J Psychiatry* 1991;159:547-555.
12 Jones DR. Secondary disaster victims: the emotional effects of recovering and identifying human remains. *Am J Psychiatry* 1985;142:303-307.
13 Taylor AJ, Frazer AG. The stress of post-disaster body handling and victim identification work. *J Hum Stress* 1982;8:4-12.
14 Ursano RJ, Fullerton CS, Kao T, Bhartiya VR. Longitudinal assessment of posttraumatic stress disorder and depression after exposure to traumatic death. *J Nerv Ment Dis* 1995;183:36-42.
15 Ursano RJ, McCarroll JE. The nature of a traumatic stressor: handling dead bodies. *J Nerv Ment Dis* 1990;178:396-398.
16 Berman R, Roel G. Encounter with death and destruction: the 1985 Mexico City earthquake. *Group Anal* 1993;26:81-89.
17 Duckworth DH. Psychological problems arising from disaster work. *Stress Med* 1986;2:315-323.
18 Armstrong KR, Lund PE, McWright LT, Tichenor V. Multiple stressor debriefing and the American Red Cross: the East Bay Hills fire experience. *Soc Work* 1995;40:83-90.
19 Armstrong K, O'Callahan W, Marmar CR. Debriefing Red Cross disaster personnel: the Multiple Stressor Debriefing Model. *J Trauma Stress* 1991;4:581-593.
20 Bell JL. Traumatic event debriefing: service delivery designs and the role of social work. *Soc Work* 1995;40:36-43.
21 Dyregrov A, Mitchell JT. Critical incident stress debriefing. *Tidsskrift for Norsk Psykologforening* 1988;25:217-224.
22 Waters KA, Selander J, Stuart GW. Psychological adaptation of nurses post-disaster. *Issues Ment Health Nurs* 1992;13:177-190.
23 McFarlane AC, Papay P. Multiple diagnoses in posttraumatic stress disorder in the victims of a natural disaster. *J Nerv Ment Dis* 1992;180:498-504.
24 Horowitz MJ, Stinson C, Field N. Natural disasters and stress response syndromes. *Psychiatr Ann* 1991;21:556-562.
25 Berah EF, Jones HJ, Valent P. The experience of a mental health team involved in the early phase of a disaster. *Aust N Z J Psychiatry* 1984;18:354-358.

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Mark R. Johnson Competition
"Excellence in Medical Writing"

The Editorial Board of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION and the OSMA Board of Trustees are proud to announce the 1996 Mark R. Johnson Competition—Excellence in Medical Writing.

A $500 cash award will be presented to the medical student or resident at the University of Oklahoma College of Medicine (Oklahoma City or Tulsa campus) who, by December 31, 1996, submits the best scientific paper or opinion piece for publication in the JOURNAL.

Entries will be judged by the JOURNAL's Editorial Board at its annual meeting next March and the winner, if any, will be announced at the Annual Meeting of the OSMA House of Delegates in April 1997. All decisions of the Editorial Board will be final.

The student or resident submitting the paper need not be the *sole* author, but must be the *lead* author and must have done the majority of the writing. Entries in the competition should be clearly labeled as such when submitted.

Entries should be mailed to: Mark R. Johnson Competition, OSMA JOURNAL, 601 West I-44 Service Road, Oklahoma City, OK 73118. For additional information, call (405) 843-9571 or 1-800-522-9452.

The memorial trust that funds this competition was established by the friends and family of Mark R. Johnson, MD, who, during his two decades as editor-in-chief of the OSMA JOURNAL, exemplified the very best in both expository and opinion writing in the field of medicine.

Reflections on a Medical Mission to Rural Guatemala

Michael T. Valley, MD

The author describes his experience as a medical missionary in Guatemala.

Guatemala has attracted attention in recent years because of its civil unrest. An often oppressive government continues to clash with the still-prominent guerrilla movement. It is said that 13 families control 80% of the country's wealth—a situation that fosters abuse and neglect. The guerillas are driven by Marxist beliefs, yet they have wielded much force with resulting destruction of property and lives. The neutral Guatemalans have been caught in the middle for years. Unfortunately, their physical health has suffered without access to basic medical care.

In February 1996, I had the privilege of traveling to a rural area in Guatemala and providing medical care. I was part of a larger group of 48 volunteers who spent a week in the small city of Joyabaj in the state of Quiche. The group was called Ayudas Internationales (Helps International). Nonmedical personnel in our group included cooks, translators, maintenance engineers, and high school students as helpers. Medical personnel included nurses, anesthetists, a pharmacist, and physicians—an entire cadre large enough to staff a small hospital. Physicians included an obstetrician-gynecologist, general surgeon, internist, anesthesiologist, two family practitioners, two dentists, and two plastic surgeons. Our supplies were donated or purchased by Helps International. Many reusable equipment supplies were brought by us to be returned to our home institutions.

Joyabaj is about 200 kilometers northwest of Guatemala City yet requires 6 hours to reach by bus because of the narrow, winding, treacherous mountain roads. The people of Joyabaj are a cultural mix of Mayan Indian and Spanish ancestry. Most speak Spanish, although many only speak the Indian dialect of Quiche, unique to this part of Guatemala. There are about 65 unique Indian dialects in all of Guatemala. The language barriers are, in part, the cause of suppressed progress for many Guatemalans.

The hospital in which we worked is one of about 10 facilities built in Guatemala over the last two decades with U.S. humanitarian aid. We learned that a large portion of this aid was not accounted for in the final tabulation of the total funds needed to build the hospitals—another illustration of the corrupt nature of some Guatemalan officials. It was also disappointing to learn that there were scant resources available to continue medical care in our absence; three rural practitioners used the hospital but had only basic skills—no ancillary staff were available to operate a lab or staff the operating room.

I spent over two-thirds of my time in the operating room. The cases were similar to those I see in the United States; however, the concentrated volume and acuity were greater. There was no paucity of surgical problems. Cases included multiple patients with utero-vaginal prolapse, a large fibroid uterus, a 12-pound ovarian dermoid cyst and, on the last night of operating, a Cesarean delivery for a transverse lie (the mother pre-

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sented with the hand of her fetus presenting out of the vagina.) It is likely that this mother and child would have succumbed to this condition had we not been able to perform the Cesarean. I can't help think that this women presented on our last day because of some greater power.

The plastic surgeons performed many cleft lip and palate procedures, the dentists extracted many irreparable teeth, and the general surgeon repaired many large femoral and inguinal hernias. In all, more than 80 surgical procedures were performed, excluding dental extractions. Because of the number of fires in households, many patients have skin contractures secondary to burns. Fires are used not only for cooking but to create steam heat used to induce sweat for body cleansing; no bathing or showering facilities were usually available to the indigenous people. Some contractures were released and grafted by the plastic surgeons.

Like many ambulatory clinics, our group's clinics were extremely busy. Not all patients could be seen, yet there were over 1,200 patient visits in five and a half days. Hundreds gathered each day outside the hospital's fence hoping they could succeed in the lottery for numbered cards—about 200 numbered cards were distributed each day. Having a numbered card assured them that they could be triaged at least and considered for care. Problems were varied but not dissimilar to those seen in the United States. Medicines were dispensed but follow-up will be almost nonexistent—another disappointment.

In all, the people were grateful for our presence. However, I left with many questions and concerns. Without follow-up care, is much of our intervention—especially in the outpatient setting—really lacking long-term benefit? Is the presence of groups like ours a disincentive for the Guatemalan government to provide for their own people? Or does our presence likewise "disable" the local people so that they are less likely to take progressive initiative? Finally, might the U.S. be more prudent in how aid is administered? For example, I believe that less money spent on capital construction and more money spent on education would provide a longer-lasting benefit. I hope that in the future I will be part of a primarily educational mission—training Guatemalans to care for each other. I believe that sharing my knowledge could have farther-reaching effects than the small amount of help my services provided. J

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PRAMSGRAM

Depression After Delivery Among Oklahoma Mothers

From the Maternal & Child Health Service, Oklahoma State Department of Health

IN OKLAHOMA:

- Two out of three mothers report some level of depression after delivery.
- Age, race, education, and marital status are not associated with a mother reporting depression after delivery.
- Depression appears to be associated *primarily* with a mother's reported source of income (a measure of socioeconomic status) and stressful life events (e.g., divorce/separation).
- Mothers with an unwanted pregnancy are three times as likely to report being severely depressed after delivery as mothers with an intended pregnancy.
- Mothers experiencing a violent event in the 12 months prior to delivery are 3.3 times as likely to report severe depression after delivery as mothers not experiencing violence.

Pregnancy and the postpartum period present mothers and their families with a variety of increased demands. Usually, mothers cope well with the requirements of infant care and their effects on family, economic, social, and marital responsibilities;[1] however, depression is exceedingly common in the first six months following delivery. This depression may reflect a mother's difficulty in adjusting to the new demands.[1] It may also impair a mother's capacity to make these adjustments as well as her ability to make use of available resources.

Three types of depression after delivery have been described: postpartum (or baby) blues, postpartum depression, and postpartum psychosis. Postpartum blues refers to a brief depression experienced by 50% to 80% of mothers in the early postpartum period.[2] It represents a variation of normal emotional changes after childbirth perhaps, in part, resulting from fluctuation in hormone levels after childbirth.[3] Postpartum depression occurs in 10% to 15% of new mothers.[3] Usually beginning within two weeks of delivery, it can last up to 14 months.[2] Postpartum psychosis is the most severe manifestation of depression after delivery. Estimates suggest that out of every 1,000 deliveries there are one to four cases of postpartum psychoses.[3] These women experience severely depressed mood, confusion, hallucinations, or delusions.[1]

Clinically significant depression after delivery is a common, potentially serious health problem among new mothers, and may result in reduced ability of the mother to attend to her infant's needs (e.g., feeding).[4] It may also pose long-term adverse consequences to the subsequent cognitive and behavioral development of the infant.[2]

To explore the patterns and prevalence of self-reported "depression" during the postpartum period among Oklahoma mothers, this report analyzed data from the Oklahoma Pregnancy Risk Assessment Monitoring System (PRAMS).

Direct correspondence to the PRAMS Program, MCH Planning and Evaluation Section, Oklahoma State Department of Health, 1000 NE Tenth Street, Oklahoma City, OK 73117-1299.

Methods and Materials

In the postpartum period, mothers were asked the following: "In the months after your delivery would you say you were (1) not depressed at all; (2) slightly depressed; (3) moderately depressed; (4) very depressed; or (5) very depressed and had to get help." All mothers who answered the question were included in the analysis except those whose babies died or were in an intensive care unit or premature nursery after delivery. The factors influencing these mothers' emotional state after delivery are different from those with a live, healthy infant.

This analysis examined factors associated with reporting *any level* of depression and those associated *specifically* with experiencing *severe* depression. *Any level* of depression included "slightly," "moderately," and "very" depressed as well as "very depressed and had to get help" (i.e., all mothers who reported some depression). *Severe* depression was defined as a self-report of "very depressed" or "very depressed and had to get help." Prevalence percentages and standard errors for no depression (*none*), *any level* of depression, and *severe* depression were calculated for a variety of characteristics including socio-demographic, behavioral, and lifestyle. Chi-square tests were performed to identify factors associated with *any level* of depression and with *severe* depression. In both cases, women with no depression were used as the comparison group. P-values were calculated for each of the tests; a value less than 0.05 was considered statistically significant.

Counseling about postpartum depression from health care providers during the prenatal and the immediate postpartum periods is an important component of the assessment and intervention for

PRAMS is a population-based survey of Oklahoma mothers with a recent delivery. Analysis weights are applied to adjust for selection probability and non-response. A stratified systematic sampling approach is used to select approximately 200 new mothers each month from the state's live birth registry. Up to three mailed questionnaires are used to solicit a response. Telephone interviews are attempted for non-respondents. Data for this report reflect live births occurring between April 1990 and March 1994. The response rate was 70%. The analysis includes information collected from 4,490 mothers who responded to the question related to depression after delivery. All data represent state estimates.

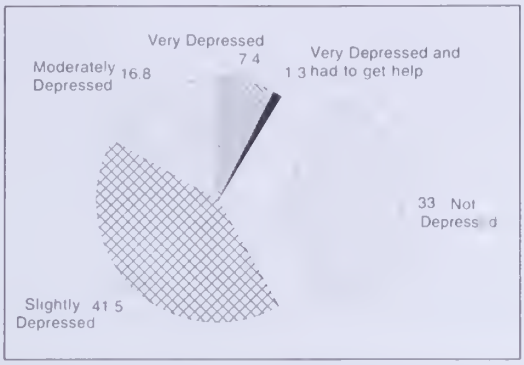

Figure 1. Percent of Oklahoma Mothers Experiencing Depression Postpartum

Table1. General Characteristics
Mothers Experiencing Any Level of Depression After Delivery

Characteristic	None[1] % [se]	Any Level[2] % [se]	p[3] value
Age			
< 20 years	31.6 [2.9]	68.4 [2.9]	.29
20-24 years	31.0 [1.8]	69.0 [1.8]	
25-29 years	32.8 [1.8]	67.2 [1.8]	
30-34 years	37.3 [2.4]	62.7 [2.4]	
35+ years	34.6 [3.8]	65.4 [3.8]	
Education[4]			
< 12 years	28.2 [3.0]	61.8 [3.0]	.09
12 + years	33.7 [1.1]	66.3 [1.1]	
Race			
White	32.2 [1.1]	67.8 [1.1]	.18
African American	42.0 [4.4]	58.0 [4.4]	
Native American	32.9 [3.5]	67.1 [3.5]	
Marital Status[5]			
Married	33.9 [1.2]	66.1 [1.2]	.06
Unmarried	31.0 [1.9]	69.0 [1.9]	
Income Source			
Job/Business	35.9 [1.2]	64.1 [1.2]	< .001
Welfare	25.1 [2.1]	74.9 [2.1]	
Medicaid Funding[6]			
Yes	29.3 [1.7]	60.7 [1.7]	.01
No	35.2 [1.3]	64.8 [1.3]	
Intention of Pregnancy			
Intended	36.4 [1.4]	63.6 [1.4]	.01
Mistimed	30.9 [1.9]	59.1 [1.9]	
Unwanted	28.3 [3.0]	71.7 [3.0]	
Time During Pregnancy			
Happy	36.7 [1.3]	63.3 [1.3]	< .001
Moderately Difficult	25.3 [2.5]	74.7 [2.5]	
Difficult	21.5 [2.6]	78.5 [2.6]	
Divorce/Separation[7]			
Yes	24.9 [2.4]	75.1 [2.4]	< .001
No	35.0 [1.1]	65.0 [1.1]	

1. Mothers reporting "Not depressed at all"
2. Mothers reporting "slightly," "moderately," or "very" depressed as well as "very depressed and had to get some help"
3. P-value from chi-square test for association between no depression and any level (some) depression
4. Excludes mother < age 18
5. At Delivery
6. For either PNC or Delivery
7. Divorced or separated in the 12 months prior to delivery

depression after delivery. In order to examine this issue, mothers were asked, "Did a doctor, nurse, or other health care provider discuss postpartum depression (baby blues) with you?" Answer options included: "No"; "Yes, during pregnancy"; and "Yes, after pregnancy." Counseling among women experiencing depression after delivery was examined using prevalence percentages.

Although the PRAMS data are some of the only population-based data on the prevalence of depression after delivery, they are not without limitations: (1) only self-reported experience of depression is used; there is no information on duration of depression or other symptoms of depression (e.g., crying, mood swings, history of depression, family history) which would assist in refining the analysis; (2) the survey is sent to mothers three to six months after delivery; it may be difficult for mothers to remember how they were feeling (recall bias); (3) mothers may be reluctant to report their feelings of depression given various cultural expectations surrounding motherhood (e.g., it is expected to be a joyful time); and (4) each mother will have a different definition/experience of depression.

Mothers Reporting Any Level of Depression After Delivery

Some form (*any level*) of depression in the postpartum period was reported by the majority of mothers (67.0%). Specifically, 41.5% of mothers reported being slightly depressed, 16.8% reported being moderately depressed, 7.4% reported being very depressed, and 1.3% reported being very depressed and had to get help (Fig. 1). These last two categories combined represent 8.7% of women reporting *severe* depression.

Age, education, race, and marital status were not significantly associated (p-value >.05) with reporting of depression after delivery (mothers who reported being "slightly," "moderately," and "very" depressed as well as "very depressed and had to get help") (Table 1). A mother's economic status, however, *was* significantly associated (p-value <.05) with reporting *any level* of depression after delivery.

Compared to women who report income from a job or business, women receiving public assistance were more likely to report *any level* of depression (74.9% vs 64.1%). Women using Medicaid to pay for pregnancy-related services were also more likely (64.8% vs 60.7%) to report *any level* of postpartum depression than women not receiving Medicaid (Table 1).

Many behaviors and life events occurring before, during, and after pregnancy were significantly associated with reporting *any level* of depression after delivery. An unwanted pregnancy, having a "very difficult" time during pregnancy, and divorce or separation during the 12 months prior to their delivery increased the risk for reporting *any level* of depression in the postpartum period (Table 1).

Mothers Reporting Severe Depression After Delivery

Almost all sociodemographic variables, with exception of race, were significantly associated with *severe* depression (mothers reporting being "very depressed" or "very depressed and had to get help") (Table 2). Self-reported *severe* depression after delivery was higher among younger mothers, mothers with less than 12 years of education, and unmarried mothers. *Severe* depression was also associated with economic indicators. It was reported more than twice as often (14.3% vs 6.9%) among mothers receiving public assistance compared to mothers with income from a job or business. Similar differences occurred with respect to Medicaid status; mothers whose prenatal care or delivery was paid by Medicaid were almost twice as likely to report *severe* depression as mothers who did not receive Medicaid (11.9% vs. 6.7%).

Similar to *any level* of depression, a mother's behaviors and life experiences were also associated with her reporting *severe* depression. Mothers with an unwanted pregnancy were three times as likely to report *severe* depression as mothers whose pregnancies were intended (17.8% vs. 5.9%) (Table 2).

Divorce/separation, violence, and a mother's mood during pregnancy were all associated with reporting *severe* depression after delivery. Mothers experiencing physical violence in the 12 months prior to delivery were 3.2 times as likely to report *severe* depression as mothers who did not experience physical violence (*data not shown*).

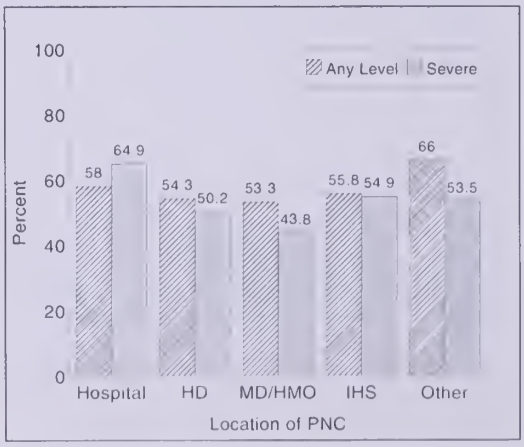

Figure 2. Percent of Mothers Experiencing Depression Who Were Counseled About Postportum Depression Depression by Location of Prenotal Care

Mothers who were divorced/separated in the 12 months prior to delivery were 2.1 times as likely to report *severe* depression as mothers not experiencing these events. The most commonly cited stress and support variables associated with depression after delivery include high levels of marital conflict/dissatisfaction and an increased number of stressful life events during pregnancy.[2] In addition, mothers who reported their pregnancy as being a "very difficult time" were six times as likely to report *severe* depression as mothers for whom pregnancy was a "happy time." A mother's mood during pregnancy has been consistently shown to predict her experience of depression after delivery.[5]

Counseling About Postpartum Depression

Given the high rate of depression after delivery, it is important to assess the prevalence of counseling by health care providers on postpartum depression. Among mothers reporting *any level* of depression after delivery, 45.1% were *not* counseled by a doctor, nurse, or other health care worker about postpartum depression during or after pregnancy. Among those reporting *severe* depression, 49.9% were not counseled (*data not shown*).

Women experiencing *any level* and *severe* depression were examined by the location of their prenatal care to identify any differences that might exist regarding postpartum depression counseling among prenatal health care providers (Fig. 2). Among mothers experiencing *any level* of depression, no major differences existed in percent of mothers receiving counseling among private doctors/HMOs, the health department, and the Indian Health Service (IHS). Those receiving care from an "Other" type of provider, primarily a midwife, were the most likely to get counseled on postpartum depression.

Mothers experiencing *severe* depression were less likely than those with *any level* of depression to receive counseling in almost every prenatal care setting, with the exception of the hospital clinics. Those who received care from a private doctor or HMO were the least likely to get counseling on postpartum depression (43.8%) while those attending hospital clinics were the most likely to receive it. Overall, mothers at greatest risk, those reporting *severe* depression after delivery, do not receive counseling on this type of depression as often as women reporting *any level* of depression.

Conclusions

The majority of mothers, 67%, report some level of depression after delivery. Among the various subgroups examined (e.g., race, income source), no fewer than 58% reported experiencing *any level* of depression. Reporting *any level* of or *severe* depression was associated primarily with a mother's source of income and occurrence of stressful life events in the prenatal period including behaviors, events, and personal relationships. *Severe* depression was also associated with sociodemographic factors such as age, education, and marital status. These associations may indicate an increased risk for depression in the postpartum period among new mothers. As such, they may be used by health care providers to assist in assessing their clients for depression after delivery.

Table 2. General Characteristics Mothers Experiencing Severe Depression After Delivery

Characteristic	None[1] % [se]	Severe[2] % [se]	p[3] value
Age			
< 20 years	31.6[2.9]	10.9 [2.0]	< .001
20-24 years	31.0 [1.8]	10.5 [1.3]	
25-29 years	32.8 [1.8]	8.9 [1.2]	
30-34 years	37.3 [2.4]	4.5 [1.0]	
35+ years	34.6 [3.8]	6.1 [1.8]	
Education[4]			
< 12 years	28.2 [3.0]	14.2 [2.4]	.003
12 + years	33.7 [1.1]	7.2 [0.6]	
Race			
White	32.2 [1.1]	8.4 [0.7]	.48
African American	42.0 [4.4]	11.5 [3.0]	
Native American	32.9 [3.5]	8.3 [2.2]	
Marital Status[5]			
Married	33.9 [1.2]	7.0 [0.7]	.001
Unmarried	25.1 [2.1]	11.7 [1.3]	
Income Source			
Job/Business	35.9 [1.2]	6.9 [0.7]	< .001
Welfare	31.0 [1.9]	14.3 [1.7]	
Medicaid Funding[6]			
Yes	29.3 [1.7]	11.9 [0.7]	< .001
No	35.2 [1.3]	6.7 [1.7]	
Intention of Pregnancy			
Intended	36.4 [1.4]	5.9 [0.7]	< .001
Mistimed	30.9 [1.9]	9.3 [1.2]	
Unwanted	28.3 [3.0]	17.8 [2.7]	
Time During Pregnancy			
Happy	36.7 [1.3]	4.5 [0.6]	< .001
Moderately Difficult	30.9 [1.9]	11.9 [1.9]	
Difficult	28.3 [3.0]	27.1 [2.9]	
Divorce/Separation[7]			
Yes	24.9 [2.4]	17.3 [2.1]	< .001
No	35.0 [1.1]	6.8 [0.6]	

1 Mothers reporting "Not depressed at all"
2 Mothers reporting "slightly," "moderately," or "very" depressed as well as "very depressed and had to get some help"
3. P-value from chi-square test for association between no depression and any level (some) depression
4 Excludes mother < age 18
5. At Delivery
6. For either PNC or Delivery
7 Divorced or separated in the 12 months prior to delivery

Symptoms of Depression

1. Crying
2. Mood swings
3. Recurring thoughts of death
4. Increase/decrease in appetite
5. Increase/decrease in sleep
6. Increase/decrease in weight
7. Guilt
8. Anxiety
9. Agitation
10. Loss of libido (sex drive)
11. Feeling "weighted down" or fatigue
12. Difficulty thinking

Although neither socioeconomic indicators nor social class have previously been found to be associated with depression after delivery,[2] there is strong evidence for an association between depression and stress, including social support and relationship/marital difficulties.[2] It is likely that the sociodemographic and income variables associated with depression after delivery in this analysis are strongly interrelated with the various stress factors (e.g., divorce/separation) that were also associated with depression. Additional analyses are needed to further explore the interrelationship among sociodemographic characteristics, economic status, stress, and depression after delivery among Oklahoma mothers.

The prevalence and potential consequences of depression after delivery indicate a need for increased awareness of the risk factors for and the impact of depression after delivery among health care providers. Providers of prenatal and postpartum care, including pediatric care, need to be able to identify, counsel, and provide appropriate intervention for mothers experiencing depression after delivery.

Recommendations

Primary health care professionals providing prenatal, postpartum, and pediatric care need to be aware of the prevalence and characteristics associated with depression after delivery among mothers in Oklahoma. To date, this information has not been available as it relates specifically to Oklahoma. Familiarity with the potential symptoms of depression is important, particularly as they may be masked by multiple physical complaints[2] or reports of anxiety[6] in both the prenatal and postpartum periods.

Currently existing screening tools such as the *Edinburgh Postnatal Depression Scale*[7] or the *Beck Depression Inventory* may assist in the identification of depression after delivery. Providers may also want to strengthen their assessment efforts during both the prenatal and postnatal follow-up periods, including pediatric visits, to assist in the identification of those mothers experiencing depression in the postpartum period.

Pregnant mothers at high risk for severe depression after delivery should, along with their families, receive additional information about the symptoms of depression. It is important to educate mothers about the symptoms of depression so they can identify it and seek assistance/support for treatment.

Once depression has been identified after delivery, the mother and her support system need to receive further education about depression and the different treatment or intervention options available. Primary health care providers should be aware of the recommended treatment and intervention options for depression after delivery as well as additional referral resources (e.g., community or non-profit organizations) for those mothers who require or request it.

Changes in the health care delivery system may expand the role of the primary provider including an increased role in the identification, counseling, and possible interventions for mothers experiencing depression after delivery. Currently, some managed care organizations are identifying their populations at risk of depression after delivery and attempting to prevent it through intervention strategies during pregnancy and the early months after delivery. In addition to these efforts, it is important that the ability to make appropriate and necessary referrals to mental health professionals be ensured. J

References

1. O'Hara M. *J. of Psychosomatic Ob/Gyn* 7 (1987); 205-207.
2. Stowe ZN, Nemeroff CB. *Am J Ob/Gyn* 173 #2 (1995); 639-645.
3. Weissman MM, Olfson M. *Science* 269 (1995); 799-801.
4. Logsdon MC, et al. *Research in Nursing and Health* 17 (1995); 449-457.
5. Nott PN, et al. *Brit. J. Psychiat.* 128 (1976); 379-383.
6. Yonkers KA, Chantilis, SJ; *Am J Ob/Gyn* 173 no.2 (1995); 632-638.
7. Cox JL et al. *Br J Psychiatry* 150 (1987); 782-786.

Acknowledgments

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Report of the President to the OSMA House of Delegates

By Dr. Larry L. Long
April 26, 1996

This past year has been one of mixed emotions. It is with great sadness that we see the departure of loyal and dedicated employees who collectively have literally decades of expertise and experience. However, this sadness has been countered by a great feeling of satisfaction in seeing our association grow, not only in membership and financial security, but also in stature and prestige across the country. On a national basis our association does enjoy great posture and stature. Advice and counsel has been sought on a continuing basis from your leadership by other associations from around the country. Matters such as our PLICO liability insurance company, our formation of PROklahoma Care, and a questionnaire as to how we conduct our House of Delegates are examples of topics about which your leadership has been contacted. Your association has been in the forefront in such issues as managed care, health care reform, telemedicine, and aggressive responses to the proposals with regard to cash versus accrual basis accounting.

Dr. Long

On a local level, your association continues to be a positive and strong influence in matters that are addressed on state and local issues. Despite a disruption in our lobbying efforts during the current session, our efforts to influence the flow of legislation continues to be positive. This has been accomplished through the hard work and persistent efforts of Dr. Ed Brandt, chairman of the Council on State Legislation and Regulation. Our board and the association owes Dr. Brandt a debt of gratitude for his vigilant performance on our behalf.

We must commend Mr. Bickham for his persistent and long-term efforts to secure an exemption for PLICO from the National Association of Insurance Commissioners capital requirements. His dogged determination in dealing with John Crawford, the insurance commissioner, has borne fruit with a letter of exemption from the commissioner. The move will save Oklahoma physicians countless millions of dollars in the future. To David we say sincerely, "Thank you."

90th ANNUAL MEETING

I think it is important to call attention to the continued strength and growth of our relationship between the association and the Oklahoma Congressional delegation. They have been pretty much with the OSMA all the way down the line. Few associations have as effective a federal program as the Oklahoma State Medical Association. Certainly much of the credit for the success goes to Dr. Boatsman, who chairs the Council on Legislative Affairs, and to our lobbyist, Mr. John Montgomery in Washington D.C.

Other items of note in the current legislative session would include a very strong "drive-through delivery" bill which Dr. Mary Anne McCaffree and the Oklahoma State Medical Association Perinatal Task Force helped write, which has been passed. A bill that would require out-of-state physicians who practice telemedicine in Oklahoma to have an Oklahoma medical license will become law with an amendment requiring that any litigation involving an Oklahoma patient and a non-Oklahoma "telephysician" must be adjudicated in an Oklahoma court. We think this is extremely important for us to maintain local control over the practice of medicine in our state.

While it is no longer a part of the Oklahoma State Medical Association, I am extremely proud of PROklahoma Care and the Oklahoma Physician Network. They have certainly become a reality within this past year. Both organizations are on the verge of becoming highly successful. We must remember that we owe a great vote of thanks to Dr. Lance Miller and Dr. Jay Gregory for their tenacity and perseverance in the development of these companies. These companies are the

(continued on next page)

Report of the President-Elect to the OSMA House of Delegates

By Dr. David L. Harper
April 28, 1996

Last night in a brief address at the banquet, I asked for your assistance and cooperation in helping bring the OSMA together in 1996 and move forward in a stronger and more unified organization.

I will be asking you to set aside some time—time none of us has in abundance—to give something back to our profession by participating in our organization in any way you can—serve on committees, attend meetings and give your opinions, and talk with your senator or representative about legislation affecting patients and the practice of medicine. Volunteer to serve.

We must work *together* to be successful. We have certainly had our internal problems and struggles these past few years. Although seemingly bad at times, these also can be construed as growing pains which every organization of our size will experience. We *must* strive to put these behind us and move on.

Dr. Harper

We will always have our differences—different specialties, different practice locations, different hospitals, different insurance programs in which we participate and more.

But we have *great* similarities. We have all experienced the "slings and arrows" of medical school and residency. We've all struggled with difficult diagnoses. We have all suffered with patients and their families. We are all physicians. Let us remember this and recognize each other with respect.

It is time for the OSMA to move ahead—to stop the internal strife, heal the wounds, and get on with business of representing the physicians of Oklahoma and doing our best to ensure the highest quality of health care for our patients. This is the reason for our being as an organization. We are all the OSMA. Only *together* can we make this a successful year. I need your help. Let's go forward together as a unified organization and we *will* be successful. J

Report of the President *(continued)*

envy of physicians in other states. This is reflected in the fact that we have been contacted by a number of states to share our expertise in this matter.

We must not forget the charity and good works of all physicians, nurses, and other allied health care professionals who performed so efficiently, so magnificently, and so heroically after the Murrah Building bombing in April of 1995. In recognition of this effort, the American Medical Association will present its Award of Valor to the physicians of the Oklahoma County Medical Society for their work in this tragedy. This award will be given at the annual meeting in June in Chicago.

On a positive and very exciting note it is significant to see the Oklahoma State Medical Association prepare for communications in the next century by entering the world of the Internet. You will be introduced to the association's Web site, OSMA Online, during this meeting. I think you will be impressed with the initial efforts that have been made to bring the association onto the communications highway of the next millennium.

While we don't have true teleconferencing yet, many of the councils and committees use telephone conference calls to conduct business. This has worked rather well, and again has allowed more physicians to participate in business of the association.

In closing, Mr. Chairman, I would like to share my great hope for the future of this association. It is strong; it is vital; is it vibrant. It has a substantial list of upcoming leaders who are dedicated, knowledgeable, and creative in ways to make this association even better. I wish this association and its new leadership well. Thank you. J

Annual Meeting Scrapbook... Photography by Jerry Hymer

Annual Meeting Scrapbook...

Annual Meeting Scrapbook...

HEALTH DEPARTMENT

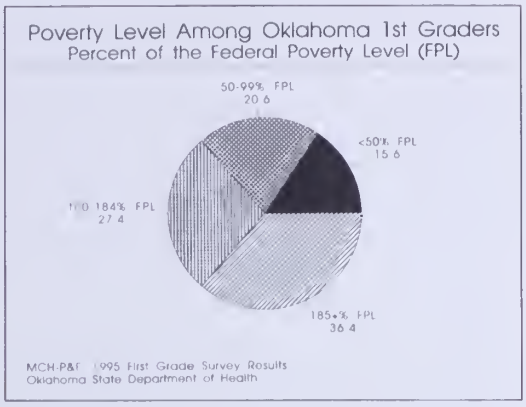
New findings about Oklahoma's first grade children include access to care

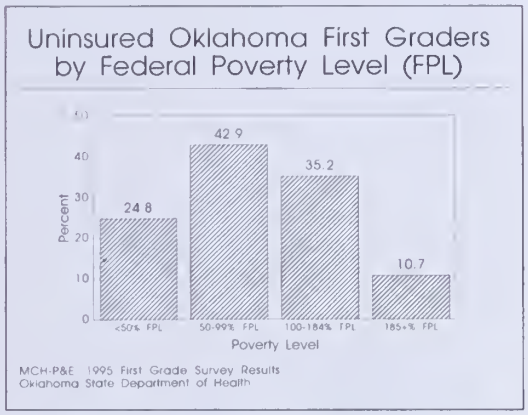
One in four first grade children in Oklahoma's public schools does not have any health insurance to help cover costs medical attention should be required. This finding and others comes from of a survey of the parents of first grade children taken in the spring of 1995. The survey sampled children from across the state and covered issues about health care access, health status, and exposure to risks common to young children.

Conventional data for children are generally limited to deaths, injuries, and notifiable diseases. Although national data are collected on other important issues, the information cannot be used reliably to describe characteristics of Oklahoma's children. For that reason, a confidential survey was initiated to learn more about the needs of Oklahoma's younger population. At the conclusion of the study, 74% of the surveys had been returned.

The findings about health insurance for the young are not encouraging. Twenty-six percent of first graders did not have any health insurance nor were they covered by a government program. Not surprisingly, the most common reason for lack of coverage was that it was too expensive (67%) and the second most common reason was the child did not qualify for Medicaid (25%). Of those not having health insurance, 78% of the parents would have to pay cash if their child needed health care. Of the parents whose children had public or private health insurance, 30% indicated that their most common form of payment for health care was cash. Among children without health insurance, 52% were living above the Federal Poverty Level, and 15% were living below 50% of the Federal Poverty Level (often defined as "extreme poverty"). The 1995 Federal Poverty Level for a family of four stipulated an annual family income of less than $15,150.

The high rate of uninsured children raises concern about the trend in health insurance coverage. The public and private insurance plans which cover the costs of health care continue to undergo significant changes. Added to that are the changes by employers to reduce the high costs of health insurance. Many working adults now are working on contract or part time; as a result, they and their children are no longer covered by a company-sponsored health insurance plan. Much of the effect of these changes has not yet been observed.





Other facts about the state's first graders:

- 84% of the children had "good" or "excellent" health as reported by the parents.
- 11% had been diagnosed with poor eye sight.
- 39% had experienced some type of tooth decay or cavity.
- 45% needed a doctor as a result of a fall in the last year.
- 25% required a doctor for a cut (laceration) in the last year.
- 49% watched two or more hours of TV per day (not including video games).
- 25% spent less than one hour per day in physical activity.
- Only 55% always wore a seat belt when in a motor vehicle.
- Only 13% always wore a helmet when riding a bicycle.
- 57% never wore a helmet when skateboarding.
- 49% were exposed to at least one hour of cigarette smoke per day.

For more information, please contact Pamela Rollins, RN, ARNP, Director, Pediatrics Division, Oklahoma State Department of Health at 405-271-4471, or Dick Lorenz, Director, Maternal and Child Health Planning and Evaluation Section, Oklahoma State Department of Health at 405-271-6761. J

CAPSULES

■ **Publication of the OSMA *Week in Review*,** a weekly update from Executive Director Mike Sulzycki, has been suspended for the summer.

■ **St. Anthony Hospital in Oklahoma City** is offering free information sessions to residents of assisted living centers in the metropolitan area. Presenters are James E. Saunders, MD, of the hospital's Hearing and Balance Center, and Meredith Cook, PT. Both specialize in the diagnosis and care of patients with dizziness and balance disorders. The sessions feature a slide presentation, physical therapy tips, and handouts. To schedule a session, or for more information, contact Kay Ahaus, PT, or Muffin McNeil, PT, in the hospital's Physical Therapy Department, 405-272-6447. J

DEATHS

John Hartwell Dunn, MD
1915 - 1996

OSMA Life Member J. Hartwell Dunn, MD, a native of Heavener, Okla., died May 27, 1996. He earned his medical degree at the University of Tennessee, Memphis, Medical School in 1941 and completed a fellowship in urology at the Mayo Clinic in 1948. That year he opened his private practice in Oklahoma City and it was interrupted only once, form 1950 to 1953, when he served in the U.S. Air Force during the Korean conflict. Dr. Hartwell was a member of the site selection committee for Baptist Medical Center and served as its first medical staff president. He also served on the executive committee and as a member of the Hospital Board of Directors.

James Polk Luton, MD
1907 - 1996

James P. Luton, MD, retired Oklahoma City ophthalmologist, died May 21, 1996. He was awarded an OSMA Life Membership in 1989. Dr. Luton attended the University of Oklahoma Medical School, graduating in 1933. Both his internship and residency were completed in Oklahoma City. In addition to his practice, he was an assistant professor of ophthalmology at University and Children's hospitals.

Henry Hubert Modrak, MD
1922 - 1996

Tulsan Henry H. Modrak, MD, retired orthopedic surgeon, died May 17, 1996. He was a 1934 graduate of the St. Louis University School of Medicine, completing his internship in St. Louis and his residency in California. Prior to establishing his practice in Tulsa in 1966, he was assistant clinical professor of orthopedics at the University of Colorado School of Medicine and assistant chief, orthopedic service, Fitzsimons General Hospital, Denver. He joined the U.S. Army in 1947 and spent the first half of his career serving as an orthopedic surgeon in various Army hospitals. Dr. Modrak was awarded Life Membership in the OSMA in April 1995.

Marlene Marie Normand, MD
1955 - 1996

Takoma Park, Md., native Marlene M. Normand, died May 6, 1996, in Oklahoma City. She earned her medical degree in 1985 at the University of Oklahoma College of Medicine, completed her internship and residency in neurology at the Medical College of Virginia and a fellowship at the Mayo Clinic. A former associate professor from the

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DEATHS *continued*

University of Nebraska Medical Center, Omaha, she had become a staff physician at Oklahoma City's Mercy Health Center in January 1995.

Hobart Curtis Sanders, MD
1929 - 1996

Retired Tulsa obstetrician-gynecologist Hobart C. Sanders, MD, died March 22, 1996. Dr. Sanders was born in Boley, Okla., and received his medical degree from Meharry Medical College, Nashville, Tenn., in 1954. An internship in Kansas City followed, and a few years later he started his medical practice in Tulsa in 1958. Dr. Sanders was awarded an OSMA Life Membership in 1988.

Logan Albert Spann, MD
1905 - 1996

OSMA Life Member Logan A. Spann, MD, retired Tulsa general practitioner and surgeon, died June 7, 1995. A native of Myron, Ark., Dr. Spann earned his medical degree at the University of Oklahoma in 1934 and completed his internship in Tulsa. He established his practice there the following year. World War II interrupted his medical career. He served as a U.S. Navy flight surgeon in the Pacific theater from 1942 to 1945, earning a Purple Heart during the invasion of Guam and attaining the rank of lieutenant commander by the time he was discharged. After the war he returned to his practice in Tulsa. He was granted Life Member status in 1976.

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1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
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Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Hobart Curtis Sanders, MD ..... March 22
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3
Marlene Marie Normand, MD ..... May 6
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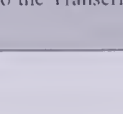

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THE LAST WORD

■ **Burns from house fires have decreased 73% in an area** of Oklahoma City targeted with a smoke detector giveaway, reports *Prevention,* a newsletter from the Center for Injury Prevention at Children's Hospital of Oklahoma. The giveaway and subsequent four-year study was a project of the Oklahoma State Department of Health. According to the study, the 73% decrease occurred while there was a 31% *increase* in the rest of the city. This is thought to be the first scientific evaluation of smoke detector giveaways reducing residential fire morbidity and mortality. [Oklahoma House Bill 1991, which would have required smoke alarms in all newly constructed one- and two-family dwellings, or those that required a permit for remodeling, failed after a conference committee could not reach a resolution on amendments.]

■ **Ruprecht Nitschke, MD, professor and chief of pediatric** hematology/oncology at Children's Hospital of Oklahoma, has received the Robitussin and Dimetapp Miracle Maker Award from members of the hospital's staff. "Dr. Nitschke's colleagues describe his commitment as extraordinary, his care superb.... (he is a man) of great humanity and compassion," said Dr. Terrence L. Stull, chairman of the hospital's Department of Pediatrics. Pediatricians are named Miracle Workers for their compassion and leadership they provide to the children, families, and communities they serve. Dr. Nitschke has authored or coauthored more than 60 papers and has been involved in significant clinical advances in pediatrics. He was also instrumental in the establishment of the Jimmy Everest Center for Cancer and Blood Disorders in Children at Children's Hospital.

■ **Two long-time OSMA staff members have been promoted** in recent weeks. Susan Records, managing editor of the JOURNAL for 13 years, has been named Director of Publications, expanding her responsibilities to management of all OSMA publications. Kathy Musson, administrative assistant for three years, has been promoted to Director of Operations. She now is general office manager and also oversees OSMA'S Web site, OSMA Online. Mrs. Musson has worked for OSMA in the past and has accrued 11 years of service on staff.

■ **Brent Hisey, MD, Oklahoma City neurosurgeon, is the** proud owner of the P-51 Mustang *Miss America,* which appeared at the Aerospace America extravaganza in Oklahoma City in June. A vintage World War II fighter, *Miss America* now sports a patriotic red, white, and blue paint job as she shows her stuff in air races. She has a growing fan club and even her own Web site. As one of perhaps some 100 Mustangs still flying, she attracts attention wherever she goes. Regarding the Mustang, Dr. Hisey says, "I have always felt it was the prettiest plane ever produced, and it's one of the world's fastest aircraft. It represents a period of history where bravery and virtue meant something." *Miss America* was featured in a story in *The Daily Oklahoman* on June 14 and has a role in the upcoming Disney film *Air Reno.*

■ **Bruce M. Van Horn, MD, Ada pathologist, has found** his hobby, poker, to be very rewarding. How so? By winning second place in the World Series of Poker in Las Vegas two months ago. It took a professional to beat him. The pro, a Las Vegas resident, went home with $1 million and a gold bracelet. The amateur from Oklahoma had to settle for $585,000 (and no bracelet). Afterwards, Dr. Van Horn said, "I'd hate to do this for a living, but it's a good hobby for someone like me....There's no other sport where an amateur like me can enter a tournament and end up playing with the Magic Johnsons and Henry Aarons of the game."

■ **The Oklahoma County Medical Society (OCMS) was** awarded the AMA's prestigious Medal of Valor last month in Chicago. The award was bestowed on the county's doctors for their heroism in the aftermath of last year's bombing of the Murrah Federal Building, "for demonstrating courage under extraordinary circumstances in nonwartime situations." The medal, valued at $3,000, was presented to OCMS President John Bozalis, MD, at the Interim Meeting of the AMA House of Delegates. The award was established in 1990 by Dr. Lonnie Bristow, current AMA president.

■ **Three Oklahoma City doctors are in Atlanta this month** as members of the Olympic medical staff. Brock E. Schnebel, MD, an orthopedic surgeon in Oklahoma City, is serving as a member of the medical staff for the U.S. volleyball and handball teams. Sports medicine specialist Robert Terrell, MD, Oklahoma City, will be on duty as chief medical officer for the International Softball Federation. Carlan Yates, MD, also an orthopedic surgeon, will be in Atlanta as well. The Olympic medical staff provides medical care for athletes during the Olympic team trials, pre-Olympic tours and competition, team processing, and actual Olympic competition. Physicians apply to and are selected by the U.S. Olympic Committee. The selection process can be lengthy, with interested physicians having to work their way up by first serving at Olympic training camps and other sports festivals and competitions for several years.

■ **Roger Quinn, MD, Oklahoma City obstetrician-gynecologist,** received a public "thank you" from a grateful patient in the May issue of *Issues and Answers,* newsletter of the Oklahoma State Board of Medical Licensure and Supervision. The patient wrote to the board to praise Dr. Quinn for responding to her call for help for her daughter, who was suffering stomach pains. Although an answering service took the call, Dr. Quinn not only responded promptly, but also made a follow-up call the next day. The mother wrote, "Dr. Quinn was a shining example that there truly remain those dedicated to their chosen profession of helping those in need even after years of service." ■

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OKLAHOMA STATE MEDICAL ASSOCIATION

AUGUST 1996 VOL. 89, NO. 8

EDITORIAL
Too Many MVAs 263
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE
One on One 265
D.L. Harper, Tulsa

SCIENTIFIC
Antibiotics and Respiratory Infections: Do Antibiotic Prescriptions Improve Outcomes? 267
R.M. Hamm, R.J. Hicks, D.A. Bemben; Oklahoma City

COMMENTARY
Ethics and Morality vs. Managed Care 275
R.A. Sansone, E.J. Roman; Oklahoma City

SPECIAL
Report 59 of the AMA Board of Trustees (A-96): Physician-Assisted Suicide 281
Reference Committee on Amendments to Constitution and Bylaws

NEWS
OSMA Board of Trustees holds July meeting, 295... State delegation reports from AMA, 295...

DEPARTMENTS
Health Department, 297... Letters, 300... In Memoriam, 301... Deaths, 302... Classifieds, 303... The Last Word, 308

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Craig L. Abbott, MD, an Oklahoma City dermatologist, photographed this white tiger a few years ago at the Tulsa zoo.

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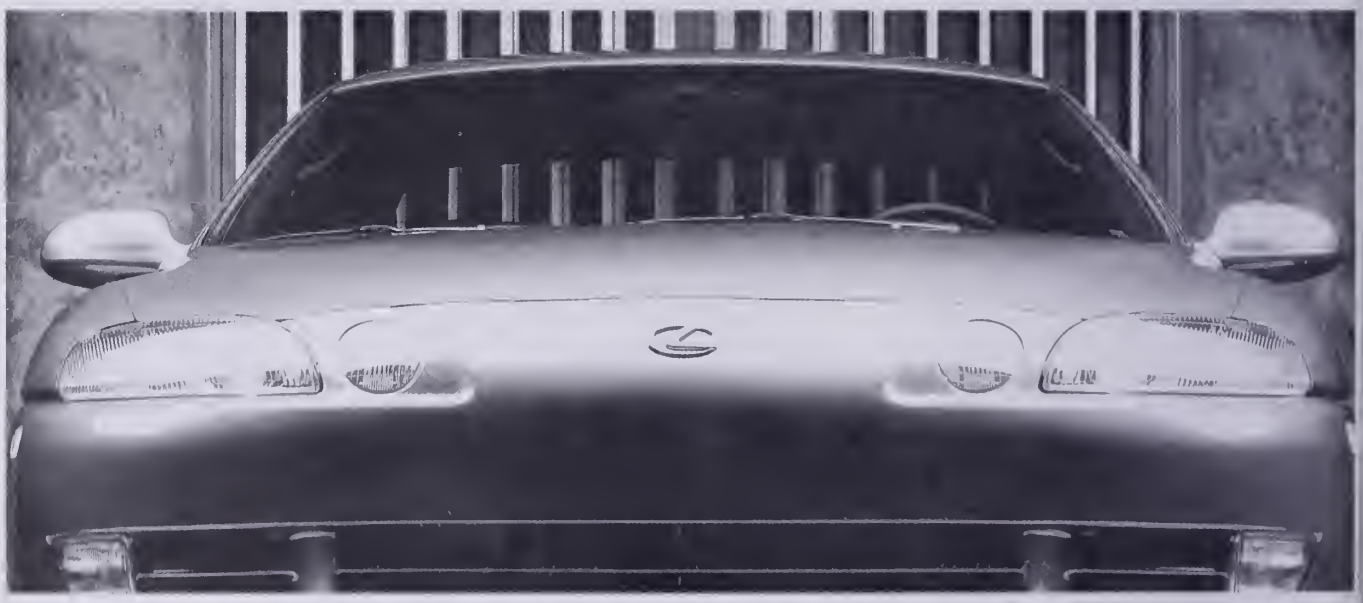

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EDITORIAL

Too Many MVAs

It is a grim fact today that automobile accidents take a grisly toll of human life. With a daily casualty rate approximating that of active combat in a shooting war, our society's automobile use produces a blood bath of epidemic proportions. After herculean efforts on auto and highway safety engineering, almost every current motor vehicle accident (MVA) is basically caused by human error.

There is fairly clear consensus that the accident rate per mile driven as related to age is greatest at the two extremes of life. The newly licensed driver and the older elderly are statistically prone to difficulties, even though many individuals in both groups perform excellently.

Youthful inexperience and the common teenage delusion of invincibility often are advanced as explanations of inordinate risk-taking behaviors in the younger. Accumulated infirmities and loss of judgment are often invoked to explain the increased risk of the elderly. Unfortunately, there are no objective tests for good judgment in either age group.

In the American twentieth century, driving a car has become an emblem of independence and human freedom, as important as the right to free speech. For the younger, driving symbolizes widening horizons and freedom, as important as the right to free speech. For the younger, driving symbolizes widening horizons and freedom from direct parental supervision. For the elderly, being able to drive on daily errands delays (forever, they hope) the day of dependence on others for the necessities of daily life.

The OSMA House of Delegates recognized the importance of these considerations with a recent resolution recommending the State of Oklahoma review its policies on vision testing for drivers. It appears to be time for the OSMA to take the lead in restructuring the state's drivers licensing examination schedule.

The privileges resultant from a drivers license are a "hot-button" issue with all age groups, and any alterations in the legal scheme for driving privileges should be approached with circumspection, and with facts firmly in hand.

It may well be time to organize a united, widely based community study of drivers licensing. A task force with interested physicians working with the Department of Public Safety and the Oklahoma Council on Aging could formulate the needed changes for Oklahoma. Such a task force would improve the opportunity for wide public support for improvements in Oklahoma's drivers licensing law.

While the high accident rates of young drivers do not appear to have a medical basis, a task force might well study a longer probationary period for the learners permit or an increase to 17 or 18 years of age for the first license.

Among the elderly, visual problems become common, with macular degeneration, lens opacities, and retinal disease increasing with age. However, physical infirmities, slowing responses, and "little strokes" also accumulate with aging, and everyone, regardless of vision, eventually becomes incompetent to drive. The threshold of incompetence is sometimes not recognized by the driver.

Rather that putting the onus on the ophthalmologists for "grounding" the oldsters with eye problems, perhaps it is time for Oklahoma to instate a driving re-examination for competency in the oldsters at re-licensure time.

Ray V. McIntyre, M.D.

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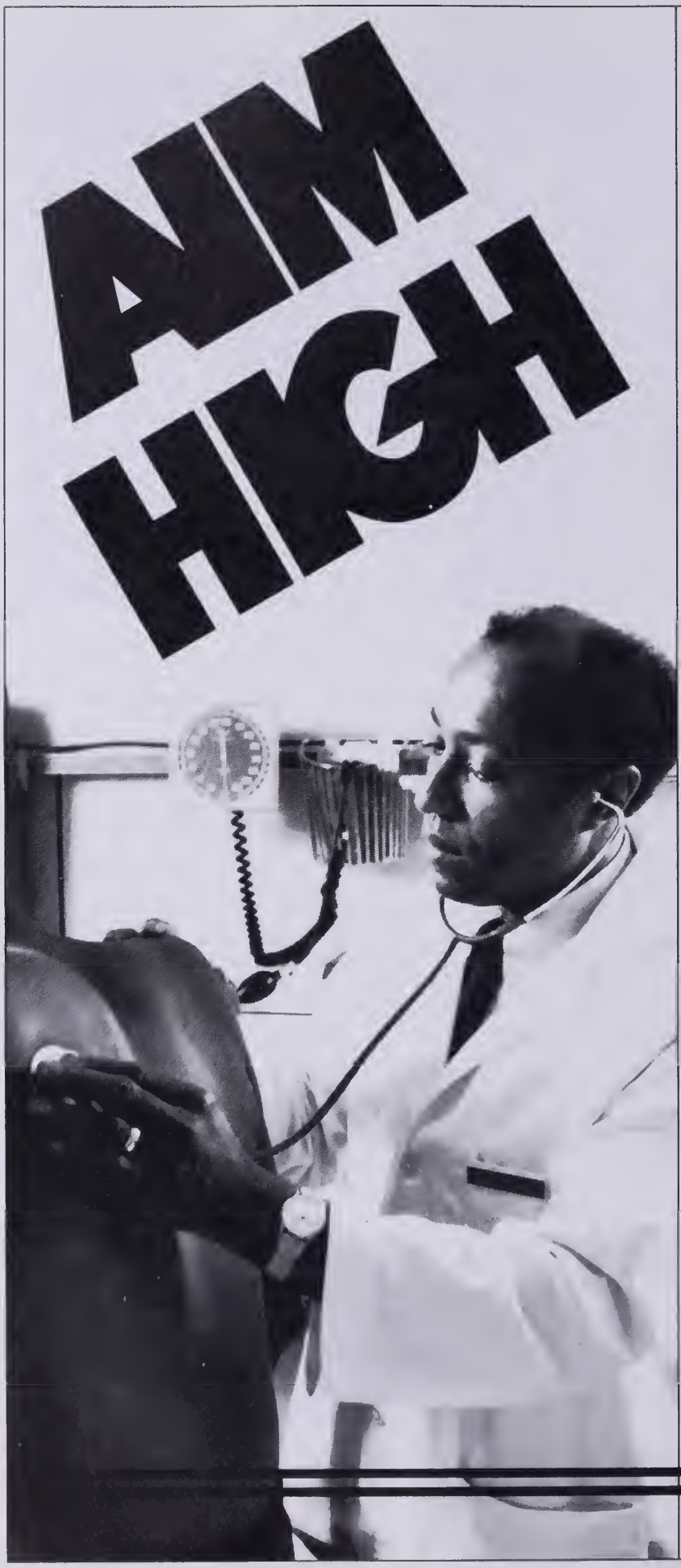
I'm too busy! I'm not interested in lowering myself to play the dirty political game! We never win anyway! Unfortunately, these have been typical responses from our members when asked to participate and become active in representing physicians and medicine in our legislative process.

The very best way to participate effectively in our state political process is to establish a relationship with *your* state senator and representative. Meet them, contribute to their campaign if you can, call them or write them so they recognize your name and will listen to your opinions, especially on healthcare-related legislation. It is precisely this type of *grassroots* involvement that can make a difference in the legislative process, and it must be ongoing and ideally proactive.

There are always a small number of OSMA members who either enjoy political participation or are willing to spend the time to represent us. We will also have new lobbyists representing the OSMA and our opinions. We will have legislative committee members reviewing and participating in our legislative agenda. But by far the most effective voice is that of the individual who will personally discuss issues with his or her representative or senator *one on one*. If you are unwilling to spend a small amount of time to participate, then your opinions may never be heard.

If we want to influence legislation—if we want to better represent the interest of physicians and patients—if we want to improve healthcare in our state, then participation is the key. *One on One Grassroots Participation*—this is our key to political participation with a successful outcome. Yes, you *can* make a difference.

David Hagen



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AIR FORCE

Antibiotics and Respiratory Infections: Do Antibiotic Prescriptions Improve Outcomes?

Robert M. Homm, PhD; Ranald J. Hicks, MD; Debro A. Bemben, PhD

Background and Objectives. Antibiatics are frequently prescribed far respirotary infections thaugh most of these infections ore viral. Ta determine whether this proctice contributes to potient health ond potient sotisfoctian, we studied the effect of ontibiotic prescriptians an autcames at 7 ta 10 doys. We olso studied the effect af ontibiatic prescriptions upon the accurocy of potients' beliefs obout viruses.

Methods. One hundred thirteen potients with a respiratary infectian campleted questiannoires befare and after their visit with their primory care dactar. A phane interview was completed 7 ta 10 days later. Questians elicited their expectatians far antibiatics, their beliefs abaut the efficacy af antibiatics, and satisfactian with the dactor. The phone interview asked whether they felt better, whether they had returned to the dactar about the same illness, sotisfoction, and whether they wauld expect antibiotics for the some disease in the future. The doctars provided infarmatian obaut their diognosis and treatment.

Results. No correlatian was faund between prescriptian of ontibiatics and potient sotisfactian, feeling better, return physician visits, ar phone calls. Receiving ontibiotics increased the likelihaad the potients wauld expect ontibiotics the next time they had an upper respirotory infection ond made them more likely ta have on inoccurote belief, thot ontibiotics kill viruses.

Conclusions. The study faund na evidence that ontibiotics imprave patient autcame in upper respirotory infections by making patients feel better at 7 to 10 doys. Nar did it find evidence that ontibiatics help physicions by reducing return visits ar increosing patient sotisfoctian. Doctars are invited ta recansider their policies far prescribing ontibiotics far upper respirotory infection.

The majority of patients with rhinitis, pharyngitis, or bronchitis do not have a bacterial etiology, and therefore antibiotics would not be indicated in these patients.[1, 2] However, there are few reliable signs or symptoms to differentiate patients with a viral infection from those with bacterial infection.[3-5] In addition, it is sometimes thought that antibiotics prevent the development of a bacterial secondary infection, though a meta-analytic review of studies did not support that belief.[6] Consequently, primary care physicians often prescribe antibiotics to a patient presenting with the signs and symptoms of a respiratory infection.[7-10] The rate of prescribing antibiotics for these patients varies between sites (4% reported in Italy,[11] 44% in Sweden,[12] 79% in Scotland[13]), between doctors in the same practice (ranging from 21% to 76% in one 5-physician practice[14]), and between trainees (undifferentiated URI 33%, sinusitis 60%, bronchitis 63%) and those with more experience (undifferentiated URI 48%, sinusitis 78%, bronchitis 80%).[15]

It has been argued that we should reduce the

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volume of antibiotics prescribed for viral diseases. Overuse of antibiotics promotes the evolution of resistant organisms[16-19] and it may be influenced by inaccurate information from pharmaceutical representatives.[20] A fair evaluation of the use of antibiotics for probably viral infections, however, should take into account the outcomes for the patient and the doctor. Perhaps antibiotics improve the patients' health, so they do not need to return to the doctor.[14,21] Perhaps patients' evaluation of the doctor is better if they are given antibiotics.

Indeed, the decision about how best to manage upper respiratory infection is complicated by the patients' expectations. Patients often want a prescription for antibiotics,[22] and if dissatisfied may have worse outcomes,[23] may call or visit the physician until the expectations are met, or may choose another provider.[24]

If patients' expectations for antibiotics are based on inaccurate beliefs, those may be changed. "The patient is not always right... and in those situations (requesting antibiotics for a viral infection, for example), the patient's position needs to be understood and responded to with education rather than capitulation" (p 148 of Glass, 1996[25]). The physician can explicitly educate the patient about the costs and benefits of a proposed treatment.[26-28] Additionally, physicians' actions educate patients implicitly.

We have studied the role of patient expectations on doctors' prescription of antibiotics for respiratory infections, and the influence of antibiotics upon patients' satisfaction with the visit.[29] In a group of patients diagnosed with sinusitis, bronchitis, or upper respiratory infection, about 65% expected antibiotics and 63% were given an antibiotics prescription. The physicians' decisions to prescribe antibiotics seemed to be influenced by the patients' expectations, but receiving antibiotics did not increase patient satisfaction immediately after the visit. Rather, the biggest determinant of patient satisfaction was the doctors' communication about the illness.

The present paper reports results concerning the effect of antibiotics prescription upon outcomes at 7 to 10 days. We measured how the patient felt, whether it had been necessary to call the doctor back or return to the office, and the patient's satisfaction with the doctor's care after antibiotics had had a chance to produce an effect.

The study also addressed the patients' beliefs about the efficacy of antibiotics for viral infections and their expectations for antibiotics the next time they have a respiratory infection. This allows us to assess the effects of the doctor's educational efforts and antibiotic prescriptions upon the accuracy of patient beliefs and expectations.

Table 1. Questionnaires Filled Out by the Patient Before and After Seeing the Physician

Questions Answered Before Seeing the Physician	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
If a person has an infection from a virus, an antibiotic will kill the virus. N=113	8%	25%	27%	20%	20%
Questions Answered After Seeing the Physician	**Strongly Agree**	**Agree**	**Unsure**	**Disagree**	**Strongly Disagree**
If a person has an infection from a virus, an antibiotic will kill the virus. N=110	7%	38%	9%	24%	22%
Antibiotics would shorten my illness. N=109	18%	41%	14%	17%	9%
I was satisfied with the physician's treatment. N=110	48%	49%	2%	0%	1%
I would return to the same physician for a similar illness. N=110	56%	41%	4%	0%	0%

Methods

Patients presenting with a respiratory infection at two community solo practices and one academic family practice clinic (representing 13 physicians) were asked to participate in the study. The instruments were developed following a pilot study and were reviewed by the institutional review board. Parents filled out the questionnaire on behalf of children.

Data from three questionnaires—completed by patients prior to seeing the doctor and immediately after seeing the doctor, and by the physician following the patient's visit—are presented in Table 1 (details are in Hamm, et al. [29]). These provide information about the patient's expectations for antibiotics, beliefs about whether antibiotics kill viruses, and satisfaction immediately after the visit, as well as the doctor's diagnosis and treatment decisions. Approximately 7 to 10 days following the patient's visit a follow-up telephone interview was completed (abbreviated in Table 2).

Data analysis was done using the SAS statistical package. The association between categorical variables was tested using Chi-square analysis. Comparisons between the means of a continuous variable for two groups were made using the t-test. Analysis of variance with covariates was used to predict outcomes measured on a continuous scale, such as level of patient satisfaction at 10-day follow-up. Multiple logistic regression was used to predict the probability of categorical events, such as whether the patient returned to the doctor's office.

Results

One hundred forty-two patients were initially enrolled, and 113 patients and their physicians (80%) completed all aspects of the study. Questions were answered by either the patient (100 cases) or the person responsible for the patient's care (12 for children and 1 for an elderly man). Dropouts were primarily due to our inability to reach the respondent for the follow-up phone interview. Patient age ranged from 1 to 85 years with a mean of 36 years of age. Seventy-six per-

Table 2. Phone Call Interview 7-10 Days Following the Office Visit

	Yes
If given antibiotics, did you take the medicine?	95%
After the office visit, did you call the office about the illness?	12%
Did you return to the office because of the illness?	7%
If you were to have a similar illness in the future, would you expect an antibiotic?	66%

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
I am feeling better. N=113	35%	52%	4%	7%	1%
I had difficulties from the medicine that was prescribed by the doctor. N=102	5%	8%	4%	49%	34%
I was satisfied with the physician's treatment. N=112	44%	51%	3%	3%	0%
I would return to the same physician for a similar illness. N=112	45%	49%	2%	3%	2%

	Sooner	Some Time	Later
In the future, when you have a similar illness, do you think you will come to see the doctor:	44%	50%	6%

cent of patients were female. Twenty-two percent of patients had already seen the physician for the same illness.

Inconsistency In Patient Expectations For Antibiotics.— Patients were inconsistent or were unable to remember what they had wanted. Patients' recall at the 10-day follow-up of whether they had wanted an antibiotic at the original doctor visit was relatively inaccurate. Of 74 patients who originally said antibiotics were the best medication for their problem, 22 (30%) later recalled not wanting antibiotics; of 39 who originally did not indicate they thought antibiotics were the best medicine for them, 15 (38%) later recalled that they had wanted antibiotics. Although the patients' recall was statistically significantly related to their original opinion (Chi^2=10.7, df=1, p=.001), there seems to be substantial confusion.

Effects of Antibiotic Prescriptions Upon Outcomes.— Three types of outcome that might be affected by doctors' prescription of antibiotics were measured. These were how the patients felt at 10 days, patients' additional demands upon the doctor for the same disease, and the patients' satisfaction at ten days.

Factors Influencing How Patient Felt At 10-Day Follow-Up.— At 7 to 10 days, 88% of all patients were feeling better (Table 2). To determine whether antibiotics affect how patients reported feeling at the follow-up interview (Table 3), an analysis of variance was performed. The categorical predictor variables included: doctor's diagnosis (bronchitis, sinusitis, or viral URI; other diagnoses were excluded), doctor's reported prescription (antibiotics or no antibiotics), and patient's reported expectation (for antibiotics or for no antibiotics). Additional variables were included as covariates: two variables measuring patients' need for additional contact with the doctor (how often patient called back to the office; and how often patient came back to office for another visit); patient gender (coded as 1 or 0); the patient's satisfaction immediately after the original visit; and the accuracy of the patient's beliefs about viruses and antibiotics (Table 1).

These variables had very little relation to how well the patient reported feeling at the 10-day follow-up. All variables in the regression equation together accounted for only 28.4% of the variance in how the patient felt (F(17,70)=1.64, p=.078). Although those patients who initially expected antibiotics said they felt better at 7 to 10 days (F(1,70)=6.17, p=.015), actually getting antibiotics did not make a difference (F(1,70)=.03, p=.87; Fig. 1). The most powerful predictor of whether the patient felt better was the interaction effect between whether the patient wanted antibiotics and whether the doctor gave them antibiotics. Paradoxically, those who got what they wanted (see highlighted cells in Table 3) ended up feeling slightly worse 7 to 10 days later (F (1,70)=8.29, p=.005).

Table 3. Effects of Antibiotics Upon Patient's Mean Agreement That Is Feeling Better, at 7 to 10 Days After the Visit. (1 = strongly agree, 5 = strongly disagree)

Respiratory Infection Diagnosis	Patient Expectation	Physician Prescription: Antibiotics	Physician Prescription: No Antibiotics
Bronchitis	Antibiotics	**1.71** (17, 0.77)*	~
	No Antibiotics	1.50 (2, 0.71)	**1.80** (5, 0.45)
Sinusitis	Antibiotics	**1.72** (25, 0.74)	1.00 (1, ~)
	No Antibiotics	2.10 (10, 0.88)	**3.00** (3, 1.73)
Virol	Antibiotics	**2.00** (3, 0)	1.42 (12, 0.51)
	No Antibiotics	1.50 (2, 0.71)	**2.30** (10, 1.06)

*Each cell shows Mean (N, Standard Deviation). In cells in **bold**, physician gave patient what the patient expected, whith respect to anitbiotics. Lower numbers indicate greater satisfaction.

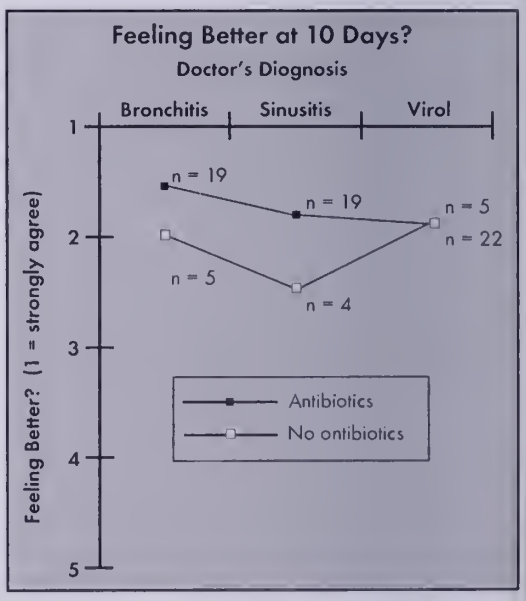

Figure 1. Agreement that one is feeling better, at 10 days, for patients diagnosed with bronchitis, sinusitis, or virol respiratory infection who received or did not receive antibiotics. Effects are not statistically significant.

Factors Influencing Patient Calls to the Office and Return Visits.— Twelve percent of patients called back to the health care facility concerning their illness and 7% had a return visit for further evaluation of the illness (Table 2). Receiving antibiotics did not decrease the patients' likelihood of return phone calls (Phi=.01, Chi^2=0.01, p=.92) or visits (4 of 42 patients not given antibiotics, 4 of 67 patients given antibiotics; Phi=.07, Chi^2=0.61, p=.44). Further, multiple logistic regression analysis showed that there was nothing among the variables measured at the time of the initial visit (e.g., whether doctor spent enough time, whether patient understood the explanation of the diagnosis, or had any particular diagnosis) that predicted the patient's likelihood of calling back to the office (F(16, 86)=0.64, p=.84) or returning to the office about the same problem (F(16, 84)=1.25, p=.25).

Factors Influencing Patient Satisfaction.— Patient satisfaction was measured with a questionnaire completed immediately after visiting the doctor (Table 1)[29] and with questions in the telephone interview ten days later (Table 2). On each occasion, patients were asked whether they agree or disagree with two statements concerning (1) whether they were satisfied with the physician's treatment and (2) whether they would return to the same physician for a similar illness. The answers to these questions were coded on a 1 to 5 scale (1=strongly agree, 2=agree, 3=do not agree or disagree, 4=disagree, 5=strongly disagree), and the average of the two questions was used as an overall measure of the patient's immediate or delayed satisfaction with the encounter with the physician. Because over 95% of the respondents agreed or strongly agreed that they were satisfied, most variation in these measures is due to differences in the degree patients were satisfied, rather than due to patients being dissatisfied. Analysis of patient satisfaction the day of the visit has been reported previously.[29]

Table 4. Effects of Antibiotics Upon Patient's Agreement That Is Satisfied with Visit to Doctor, at 7 to 10 Days After the Visit. (1 = strongly agree, 5 = strongly disagree)

Respiratory Infection Diagnosis	Patient Expectation	Physician Prescription: Antibiotics	Physician Prescription: No Antibiotics
Bronchitis	Antibiotics	**1.47** (17, 0.48)	~
	No Antibiotics	1.50 (2, 0.71)	**2.00** (5, 1.22)
Sinusitus	Antibiotics	**1.48** (25, 0.49)	1.00 (1, ~)
	No Antibiotics	1.80 (10, 0.75)	**2.00** (3, 1.00)
Viral	Antibiotics	**2.00** (3, 0)	1.68 (11, 0.64)
	No Antibiotics	1.75 (2, 1.06)	**1.70** (10, 0.48)

* Each cell shows: Mean (N, Standard Deviation). In cells in **bold** physician gave patient what the patient expected, with respect to antibiotics. Lower numbers indicate greater satisfaction.

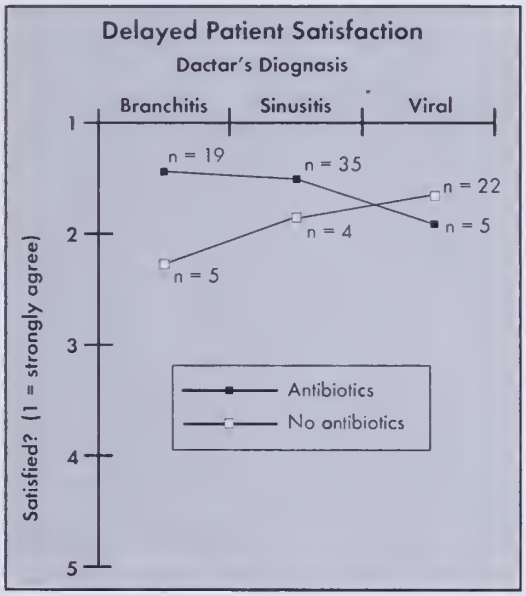

Figure 2. Patient satisfaction, at 10 days, for patients diagnosed with bronchitis, sinusitis, or viral respiratory infection who received or did not receive antibiotics. Effects are not statistically significant.

Patients' Satisfaction At Follow-Up.— An analysis of variance was done to discover whether any factors predict delayed patient satisfaction at the follow-up interview. Predictor variables included those used to predict how well the patient felt at seven to ten days (see above), plus the measure of how the patient felt (Table 4).

Patient satisfaction after 7 to 10 days was not very predictable. Only 39% of the variance was explained by the model (F(17,69)=2.29, p=.008). (This may be compared with the model which explained 71% of the variance in the patients' immediate satisfaction.[29]) The best predictor of satisfaction at the 10-day follow-up was satisfaction right after the visit with the doctor (F(1,68)=21.8, p=.0001). Also, the better the patient felt at 10 days, the more satisfied (F=3.51, p=.07). The number of return visits or calls to the doctor did not influence satisfaction. Significantly, neither receiving antibiotics (F(1,68)=0.7, p=0.48; Fig. 2) nor receiving what one had initially wanted (the interaction between expecting antibiotics and getting antibiotics) F(1,68)=0.5, p=.47; Table 4) affected patients' satisfaction at 7 to 10 days.

Changes in Patient Knowledge and Expecta-

tions.— ***Accuracy of Knowledge Before Seeing Doctor.*** Patients' knowledge about viral illness was measured before and after they talked with the doctor. Accurate knowledge was indicated if the patient disagreed with the statement that an antibiotic will kill a virus (on a scale where 1=strongly agree and 5=strongly disagree).

Initially 33% of patients agreed with the inaccurate statement that antibiotics kill viruses, and 27% were not sure (Table 1). The accuracy of patients' knowledge, prior to talking with the doctor, was unrelated to any of the variables measured at the same time. The patients' expectation of receiving antibiotics for their illness was not related to the accuracy of their knowledge about whether antibiotics kill viruses (t=.59, p=.56).

Accuracy Of Knowledge After Seeing Doctor. After the visit with the doctor, 45% of the patients agreed with the false statement that antibiotics kill viruses (Table 1). Patients' beliefs were related to what they believed before they talked to the doctor (r=.69, n=113, p=.0001). A measure of the change in the patient's accuracy on this question was computed. A regression analysis predicting this change in accuracy from the patients' responses to other questions and from the doctors' diagnosis and treatment predicted this variable moderately (R^2=.23, F(13, 96)=2.26, p=.012). Patients who had originally expected to receive antibiotics came to have a less accurate belief concerning antibiotics' ability to kill viruses (t=2.7, p=.008) than patients who had not expected antibiotics. Patients whose doctors gave them prescriptions for drugs other than antibiotics came to have more accurate beliefs on this question (t=1.99, p=.05) than patients who received antibiotics.

Accuracy of Knowledge at Follow-up. At the ten-day follow-up, 66% of patients indicated that they would expect an antibiotic for a similar illness in the future (Table 2). The best predictor of expecting antibiotics in the future was the patients' report that they had received antibiotics this time (F=14.31, p=.0003). A number of variables had no relation to whether the patient would seek antibiotics next time, including the amount of time the doctor spent with the patient, the patient's understanding of the doctor's treatment choice, the doctor's diagnostic category, the doctor's prescription, and how the patient felt at the 10-day follow-up.

At the follow-up, 44% of patients indicated they would come see the doctor sooner for a similar illness in the future (Table 2). The best predictor was whether the patient had said after talking with the doctor that he or she understood the doctor's choice of treatment (the better they understood, the more likely they would come later; F=6.39, p=.013). Another significant factor was whether the patient had had difficulties with medicine. Thirteen percent of patients had difficulty with the medication, and they would come later (F=3.99, p=.049). People who were diagnosed with a viral infection said they would come later (F=3.77, p=.055).

Discussion

The doctors in this study prescribed antibiotics for respiratory infections at a rate comparable to other studies.[11,13,14,30] The prescription of antibiotics did not increase the rate at which patients felt better at 7 to 10 days. However, respiratory infections are self limiting and most patients felt better at 7 to 10 days.

Antibiotics did not reduce the number of patients who called back or returned to the office for additional treatment. The 7% of patients who returned for additional care for their respiratory infection in this study (9.5% of those without antibiotics, 5.6% of those given antibiotics) is similar to the 5% observed in the Netherlands for patients who received or did not receive antibiotics,[14] is less than the 18% observed in England for patients treated with antibiotics,[13] and is less than the 15% of those who received placebo but more than the 4% of those who received antibiotics in a U.S. study.[21] Overall, this suggests that prescribing antibiotics is not a very effective method to prevent the patient from revisiting the clinic for the same respiratory infection.

At seven to ten days after the initial visit, those who felt better were more satisfied, and those who had been more satisfied right after seeing the doctor continued to be more satisfied. Those who had had to come back to see the doctor were less satisfied. However, receiving antibiotics per se did not affect whether the patient was satisfied.

Giving what the patient wants—antibiotics if they expect them, no antibiotics if that is what they want—also did not increase the patient's satisfaction at ten days. This suggests that a common physician justification for giving antibiotics for respiratory infections is unfounded.

Effects of the Encounter on Patient's Beliefs and Expectations.— Patients started out with inaccurate knowledge concerning the effects of antibiotics. The encounter with the doctor—presumably the doctor's educational efforts—did not improve this overall: the number who agreed with the false statement that antibiotics kill viruses actually increased from 33% to 45% after the physician visit. Those who wanted antibiotics came

to endorse the inaccurate statement more than those who did not want antibiotics. On the other hand, those to whom the doctor gave a prescription for a non-antibiotic drug (e.g., cough medicine, decongestant) came to have more accurate beliefs concerning whether antibiotics kill viruses. This suggests three things: (1) In some of these encounters, the doctors educated the patients; (2) this education has an effect on patients' knowledge and expectations; and (3) doctors may be more motivated to educate a patient about the inefficacy of antibiotics against viruses when they do not prescribe the patient antibiotics.

Some of the most significant patient education is provided implicitly. Doctors' treatment affects patients' expectations for what should be done for respiratory infections. Patients who got antibiotics this time were more likely to say they would expect them next time. The majority of patients expressed the intention to visit the physician sooner next time. On the other hand, respiratory infection patients who felt they understood the doctor's reason for treatment, and patients who were diagnosed with a viral infection, were less inclined to say they would come back earlier next time they have a similar illness.

The fact that patients were almost as likely to expect antibiotics when those were inappropriate as when appropriate indicates an opportunity for physicians to educate patients selectively, if they can perceive which patients expect antibiotics. However, our earlier report showed that physicians do not recognize their patients' expectations very accurately.[29] Therefore the best strategy may be to educate all respiratory infection patients concerning the inefficacy of antibiotics for viral URI infections.

Can Physicians Change Their Antibiotic Prescribing Habits?— If antibiotics are not effective in treating most respiratory infections nor in satisfying patients, but are costly and increase organisms' resistance,[19] perhaps physicians should prescribe antibiotics for respiratory infections less often than they do now.[10] Certainly it is possible to change physicians' habits. A Swedish program reduced antibiotics prescription rate for respiratory infections to 44%, and the rate stayed that low for 5 years.[12] After years of concerted effort to reduce physicians' antibiotic prescription habits, an Italian program has reduced the rate to less than 5%.[11] These kinds of effort are not uniformly successful, of course. There are anecdotal reports of physicians who just will not reduce their antibiotics prescribing rate despite substantial reductions on the part of their colleagues.[14]

Though scientific argumentation can be compelling, often it does not catch clinicians' attention.[31] A more accessible strategy might be to communicate the clinical script of a physician who has a low rate of prescribing antibiotics. For example, a script such as the following offers several strategies that could reduce antibiotic use (though a busy clinician could not touch on every point with every patient who expects antibiotics for a respiratory infection):

- First, you find out who wants antibiotics, and don't give them to anyone who doesn't want them.
- Second, find out what the request means. Patients always say they want antibiotics because they "work." Work to do what? If you ask, you'll learn what your real task is. For many patients, the "work" is to prevent pneumonia; for others, the "work" is to get them back on the job. For a few, it is to cure the disease they are afraid they have and are convinced you are missing.
- Third, use "principled negotiation" with them. If they want to prevent pneumonia, explain what you know about how URIs and pneumonias are linked, how you can tell early pneumonia from self-limited URI, what your back-up plan might be in case you have misjudged their symptoms, and what else you can recommend to prevent pneumonia, such as smoking cessation or the avoidance of alcohol to minimize aspiration opportunities. If they need to get back to work, tell them about symptom-relief tricks so they can sleep at night and not give the crud to their co-workers. If they fear a different disease, deal with that.
- If they still want antibiotics, even after you explain that those don't work with their viral infection and don't prevent "superinfection" worth speaking of, then consider your best alternative to a negotiated agreement.[32] This will depend in most instances on the details of your relationship to the patient: Are you treating them for personality disorder or heart failure? How critical is your relationship to your ability to care for them, and what will the choice you make here do to that relationship?*

Limitations of the Study

Our measurements of outcome and patient satisfaction are weakened by possible ceiling effects, for most patients felt better ten days later, and most were satisfied with their doctor. We might have detected improvement in how patients feel

*Dr. Kent Bergh, Family-L electronic mail discussion group, February 23, 1996. Quoted (slightly edited) with permission.

due to antibiotics if we had done the follow-up interview at 2 or 3 days rather than at 7 to 10 days. Additionally, the study design was correlational rather than experimental. As we did not control whether the patient got antibiotics, we can not eliminate the possibility that the doctors avoided dissatisfaction and fended off many return visits by selectively giving antibiotics to those patients who would otherwise have complained and made return visits. Further, we relied on patient report rather than direct measurement of several factors, such as the time the doctor spent educating, so there is the possibility of a halo effect in patient rating of doctor behavior—those who were satisfied might have said the doctor did helpful things.

Conclusion

Our small study does not confirm physicians' fear that failing to prescribe an antibiotic for a respiratory infection that is most likely viral will result in patient dissatisfaction or poor patient outcome.

Acknowledgments

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References

1. Rakel RE. Conn's Current Therapy. Philadelphia: W.B. Saunders; 1994.
2. Payer L. United States: The virus in the machine. *Medicine and Culture*. London: Penguin Books; 1988:124-152.
3. McMillan JA. Upper respiratory tract infections in children. *Current Opinion in Pediatrics*. 1993;5:50-54.
4. Hays RB, Cooper CW, Bridges-Wehh C. Antibiotics in acute respiratory infections. *Medical Journal of Australia*. 1993;158:691, 694-696.
5. Buchem LV, Peeters M, Beaumont J, Knottnerus JA. Acute maxillary sinusitis in general practice: The relation between clinical picture and objective findings. *European Journal of General Practice*. 1995;1:155-160.
6. Gadomski AM. Potential interventions for preventing pneumonia among young children: Lack of effect of antihiotic treatment for upper respiratory infections. *Pediatric Infectious Disease Journal*. 1993;12:115-120.
7. Dolin R. Common viral respiratory infections. In: Wilson J et al, eds. *Harrison's Principles of Internal Medicine*. Twelfth ed. New York: McGraw-Hill, Inc.; 1991:700-702.
8. Marsland D, Wood M, May F. Content of family practice, Part 1. Rank order of diagnosis by frequency; Part 2. Diagnosis hy disease category and age/sex distrihution. *J of Family Practice*. 1976;3:37-68.
9. McCaig LF, Hughes JM. Trends in antimicrohial drug prescrihing among office-hased physicians in the United States. *JAMA*. 1995; 273:214-219.
10. Mainous AG III, Zooroh RJ, Hueston WJ. Current management of acute hronchitis in ambulatory care. *Archives of Family Medicine*. 1996;5:79-83.
11. Marchi AG, Canciani M. Il trattamento antibiotico delle infezioni respiratorie in un pronto soccorso pediatrico (The antibiotic treatment of respiratory infections in a pediatric emergency room). *Pediatria Medica e Chirurgica*. 1994;16:141-143.
12. Molstad S, Ekedahl A, Hovelius B, Thimansson H. Antibiotics prescription in primary care: A 5-year follow-up of an educational programme. *Family Practice*. 1994;11:282-286.
13. Davey P, Rutherford D, Graham B, Lynch B, Malek M. Repeat consultations after antibiotic prescribing for respiratory infection: A study in one general practice. *British Journal of General Practice*. 1994; 44:509-513.
14. Cars H, Hakansson A. To prescribe—or not to prescribe—antibiotics: District physicians' habits vary greatly, and are difficult to change. *Scandinavian Journal of Primary Health Care*. 1995;13:3-7.
15. Zwar NA, Gordon JJ, Sanson-Fisher RW. Antibiotic and benzodiazepine prescribing by general practice trainees. *Medical Journal of Australia*. 1994;161:491-493.
16. Levy SB. Confronting multidrug resistance: A role for each of us. *JAMA*. 1993;269:1840-1842.
17. Tenover FC, Hughes JM. The challenges of emerging infectious diseases: Development and spread of multiply-resistant bacterial pathogens. *JAMA*. 1996;275:300-304.
18. Kunin CM. The responsibility of the infectious disease community for the optimal use of antimicrobial agents. *Journal of Infectious Diseases*. 1985;151:388-398.
19. London N, Nijsten R, Mertens P, van der Bogaard A, Stobberingh E. Effect of antibiotic therapy on the antibiotic resistance of faecal *Escherichia coli* in patients attending general practitioners. *Journal of Antimicrobial Chemotherapy*. 1994;34:239-246.
20. Ziegler MG, Lew P, Singer BC. The accuracy of drug information from pharmaceutical sales representatives. *JAMA*. 1995;273:1296-1298.
21. Taylor B, Ahbott GD, Kerr MM, Fergusson DM. Amoxicillin and co-trimoxazole in presumed viral respiratory infections of childhood: placebo-controlled trial. *British Medical Journal*. 1977;2:552-554.
22. Holloway R, Rogers F, Gershenhorn S. Differences hetween patient and physician perceptions of predicted compliance. *Family Practice*. 1992;9:318-322.
23. Kravitz R, Cope D, Bhrany V, Leake B. Internal medicine patients' expectations for care during office visits. *Journal of General Internal Medicine*. 1994;9:75-81.
24. Scott D. Are your patients satisfied? *Postgraduate Medicine*. 1992; 92:169-170, 173-174.
25. Glass RM. The patient-physician relationship: *JAMA* focuses on the center of medicine (Editorial). *JAMA*. 1996;275:147-148.
26. Arborelius E, Bremherg S. What does a human relationship with the doctor mean? *Scond J Prim Health Care*. 1992;10:163-169.
27. Lupton D, Donaldson C, Lloyd P. Caveat emptor or hlissful ignorance? Patients and the consumerist ethos. *Social Science and Medicine*. 1991;33:559-568.
28. Laine C, Davidoff F. Patient-centered medicine: A professional evaluation. *JAMA*. 1996;275:152-156.
29. Hamm RM, Hicks RJ, Bemhen DA. Antihiotics and respiratory infections: Are patients more satisfied when expectations are met? *Journal of Family Practice*. 1996;43:56-62.
30. Kuyvenhoven M, de Melker R, van der Velden K. Prescription of antibiotics and prescribers' characteristics: A study into prescription of antihiotics in upper respiratory tract infections in general practice. *Family Practice*. 1993;10:366-370.
31. Ahernathy CM, Hamm RM. Surgical Intuition. Philadelphia: Hanley and Belfus; 1995.
32. Fisher R, Ury W. Getting to Yes: Negotiating Agreement without Giving in. Boston: Houghton-Mifflin; 1981.

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Sooner or later the withdrawal and limitation of treatment will occur regardless of what the patient or his family wishes and what the physician deems appropriate.

Ethics and Morality vs. Managed Care

Ernest G. Warner, MD

The purpose of this article is to analyze various problems produced by managed care and the ethical dilemmas contained therein. The most important change is the radical departure from the traditional physician/patient relationship, wherein the physician is regarded as an advocate for the patient. In the new paradigm, the patient is viewed as an individual to be manipulated to increase the profit of the third party/stockholder/physician.

Each year a larger percentage of physicians, including Oklahoma physicians, are taking part in managed care. When physicians become active participants in these organizations, the managed care organization dictates the rules of engagement, payment, etc. Some of these rules clearly conflict with the basic structure of medicine, the philosophical, psychological, and ethical construct of physicians, and may have major adverse legal repercussions as well. As a primary place to start in the evaluation of the changes which are taking place, the evaluation of the physician/patient relationship is essential.

Historically, physicians in western society have been advocates for patients. This is the same type of construct used in the legal arena. Patients come to physicians expecting them to have a 100% involvement or stake in their care, with the tacit assumption that the physician will provide care and protection for their lives and well-being. The basic *structure* of medical teaching in this area is "to do the patient no harm." The Hippocratic and other oaths speak of this commitment to total patient advocacy. Physicians have maintained a high level of approval in the western world largely because of their advocacy for the patient. The physician serves, as a lawyer might serve, to focus the best of his expertise and experience upon the patient, regardless of other conflicting values. The essential, core value in medicine is the focus of total beneficence toward the patient. While this may be actively pursued via various modalities such as medication, physical therapy, electric shock therapy, surgery, etc., the ultimate aim is to provide care to that individual and return him/her to the highest level of productivity possible.

Managed care can have the effect of reversing this advocacy or beneficial role of the players. The physician can be put in a position in which the patient becomes a financial adversary. That is, with many managed care arrangements, the physician makes the most income when he does *not* treat the patient. If capitated fees can be kept intact, then the third party, such as an HMO, will have the largest amount of income to distribute, including at least some to the physician providers.

Physicians should understand that third parties are in business only to make a profit (money). They are *not* altruistic, patient motivated, or beneficent, to use an ethical construct. HMOs, etc. are driven purely by the capitalist motive of making the most money with the least investment possible and in the least time. This fits our country's business climate, which is profit driven of necessity. Stockholders who invest should certainly expect a profit on their investment. Further, they

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American Medical Association

Principles of Medical Ethics

Preamble:
The medical profession has long subscribed to a body of ethical statements developed primarily for the benefit of the patient. As a member of this profession, a physician must recognize responsibility not only to patients, but also to society, to other health professionals, and to self. The following Principles adopted by the American Medical Association are not laws, but standards of conduct which define the essentials of honorable behavior for the physician.

I. A physician shall be dedicated to providing competent medical service with compassion and respect for human dignity.

II. A physician shall deal honestly with patients and colleagues, and strive to expose those physicians deficient in character or competence, or who engage in fraud or deception.

III. A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interest of the patient.

IV. A physician shall respect the rights of patients, of colleagues, and of other health professionals, and shall safeguard patient confidence within the constraints of the law.

V. A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated.

VI. A physicians shall, in the provision of appropriate patients care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services.

VII. A physician shall recognize a responsibility to participate in activities contributing to an improved community.

cannot make money over time in a service business if the service does not meet reasonable quality standards.

Intrinsically, there is nothing unethical in this area in the ordinary type of business. Capitalism has brought to the United States the highest level of industrial development coupled with personal freedom of any country in the world. Nonetheless, when these constructs are applied to healthcare the situation is different. Now we are dealing with a patient's life, the possible early termination of same plus the quality of that which remains. This cannot be compared to an ordinary business where if one goes broke, one can come back and start over again. Treatment decisions made on an individual patient may and often do delay death or disability and forced retirement, or cause a total change of life-style as would an amputation, suicide, etc.

Physicians taking part in capitated plans may participate in several ways that are unethical in effect, if not technically so. Many plans at the end of the year will split the profits, that is, the unspent premiums paid on behalf of the patient, among the attending physicians and the third party such as an HMO or insurance company. An alternative is for the physicians to own the third party, wholly or in part, putting in risk capital with the assumption of making a profit. This is called risk sharing by HMO managers. Issues such as control of decision making by physicians is the basis for producing a profit or loss at year end. If a CBC or chest x-ray is not ordered, that amount of money is unspent and will be appropriately divided. To have medical decisions significantly affected by business concepts is largely foreign to American medical care. The physician is now in a position to be rewarded by receiving a bigger profit for giving *less* or *inadequate* care than if he provides appropriate care. The conclusion is very obvious; physicians will make more money (profit) for themselves by *never* referring a patient to a specialist or at least delaying it as long as possible, avoiding diagnostic procedures such as MRI scans, EMGs, etc. Then that money is either spent, or at least spent later, from the pool of funds supplied by the patients under capitation. Ultimately, then, that money is unavailable to be shared by the physician as his personal profit.

Fees are paid in exchange for care. However, realistically, there is simply no way physicians will continue to operate on an altruistically driven basis when they have a total personal stake in the financial outcome of the enterprise. This is especially true when they are being evaluated based on economic results. Being very competitive by nature (for the most part), they will strive to be "the best" apart from economic considerations. Managed care can place both forces at work.

Equally ethically demanding is the issue of futility which will come to the forefront in the next several years as the major ethical issue. This is a topic already being vigorously discussed in the bioethical literature. As soon as definitions/guidelines are set up to define *futility*, physicians will be forced to treat most of their employer's

patients under these clinical guidelines. Guidelines are definitely coming and physicians will be forced to conform in order to be a player/share taker in the profits. Sooner or later the withdrawal and limitation of treatment will occur regardless of what the patient or his family wishes and what the physician deems appropriate. This will be based primarily on financial concepts, not on what is beneficial or even deserved by the individual patient. As an example, if a patient comes into the hospital in renal failure, and dialysis is deferred or refused by the physician, the patient then will be allowed to expire secondary to the lack of dialysis. Thus more money is made for the third party/physician by not treating the patient. Vigorous treatment of this type of patient in business terms is a financial loss situation. Further, since treatment decisions will be protocol/guideline driven, treatment options which the patient/family might wish to choose will not even be presented. This is to prevent a patient/family from choosing a higher priced type of care. This denies patient autonomy as well—a basic ethical principle.

Anecdotally, several physicians have already discussed this. That is, the inherent conflict of belonging to managed care programs and taking ethical care of their patients. These are physicians already active in capitated programs in the Oklahoma City area who perceive this conflict of interest.

They have admitted to me, reluctantly and with guilt in their voices, that they know they are occasionally no longer taking adequate care of these patients. They point out that the tests which they would usually use, an MRI scan for example, are so expensive that most of their capitation fee would be consumed for several months. If they have to do two MRIs on a given patient, such as a cervical spine and head, the cost could eat up a year or more of capitation fees, depending on the level of funding. Hence these physicians are no longer basing medical decision making on beneficence/autonomy and patient advocacy, but on maximizing their own personal income, this income being derived from *omitting* needed medical care.

The same principle applies to DNR orders. If DNR orders are written immediately upon the admission of critically ill patients to the hospital, the patient can be allowed to die much more rapidly and money will be saved. Unfortunately, to ethically (and legally) write a DNR order, one currently needs permission from the patient or their designated surrogate if the patient is no longer able to give permission. This concept of patient/family autonomy in DNR orders is now under attack with the suggestion that physicians may independently (without patient or surrogate approval) be permitted to write DNR orders in the future. Such an approach would eliminate all patient and family participation in this important aspect of medical decision making.

The alleged rational for this approach is, again, saving money by speeding up the hospital administrative process and by avoiding futile treatment. The frightening part is the lack of patient/family input, which is essential for ethical medical treatment. Medical treatment is predicated upon the physician providing a plan of treatment for a given diagnosis. The patient then has the option of electing to follow that treatment or not. The physician does *not* have the right to treat a patient independently, particularly to impose *withdrawal* of therapy, such as in a DNR order, without acting in response to the expressed wishes of the patient or the designated surrogate.

While one may believe that this kind of medical decision making will never hap-pen in the United States, I would suggest looking at the Dutch experience. The Dutch started physician-assisted suicide some years ago. Note carefully that with physician-assisted suicide they have had careful regulations in place to prevent abuse. However, since the ability to kill was placed in the hands of physicians, physician-assisted suicide has been replaced by true euthanasia. Some patients are in fact carrying cards in their wallets saying DO NOT EUTHANIZE ME. An official report from the Netherlands documents the killing of three patients *each day* by active euthanasia (*not* physician-assisted suicide). It needs to be made very clear that the whole movement of physician-assisted suicide/euthanasia in Holland started out as a discussion of futile treatment (as is now ongoing in the U.S.). It then moved into the realm of physician-assisted suicide and is now in the realm of active euthanasia at the physician's request only. The physician in Holland is able to terminate the patient based on the physician's *own* wish to do so with *no* input from the patient or family. Not infrequently, patients are terminated even against their expressed wishes. So much for the hollow concept of beneficence from physicians as a major protection of patients' lives.

A second bit of historical evidence should be kept in mind. The slippery slope was also created in Germany. In the early days of the Nazi regime, decisions were made to terminate the lives of people considered incurable, with no productive future or hope for a normal life. This started

There is simply no way physicians will continue to operate on an altruistically driven basis when they have a total personal stake in the financial outcome of the enterprise.

out with active euthanasia totally directed by German physicians in the mental hospitals and asylums. It began with those who were schizophrenic or incurably mentally ill, with children who had spina bifida, and with those having severe seizure disorders, etc. This was seen as a bipronged attack: first, release these people from a continuing chronic medical condition which could not be cured, i.e., issue of futility; and second, Germany needs all its funds to take care of its very poorly capitalized economy. Do these two principles sound strangely familiar in 1996 in the U.S?

The results are fascinating. The German physicians, and we know that physicians managed these programs, exterminated 70,000 German citizens in 22 months, predominately in the mental hospitals and homes for the incurable ill in Germany. This produced a glut of physicians and nurses on a temporary basis.

The next move was to declare that certain individuals were not worthy of life because of their race, ethic background, religion, etc. The rest of that story is too well known to repeat, other than to remember the cost of millions of lives.

The point of relating the above is to suggest that physicians are really no different ethically and morally than the rest of the population. Once given the ability to kill legally, they proceed down the path. If the controls are loosened, as they have been in Holland recently and in Germany in the 1930s—the same scenario probably will be played out in the U.S. What starts with a capitulation to the arguments regarding futility and prolonged death is moved by economics to terminate "undesirables," who only use resources and do not actively contribute to the economic well being of the state.

How does this bit of history impact on managed care? The issue is similar. If one prevents patients from having DNR/dialysis/transplants, money is saved. If one can declare these patients as incurable such that further treatment is futile, then life deserves to be terminated. The money saved is shared by the stockholders and the employees (physicians).

Unfortunately, the evolution of the process is usually very, very subtle for the physician. Instead of being the advocate for the patient, to provide the very best medical care at the bedside, he now becomes an agent of a third party, be it the state, Blue Cross/Blue Shield, HMO, etc. Physicians are no different morally or ethically than any other segment of the population. We have some physicians who are actually overtly dishonest, although a small percentage. All physicians are subject to coercion and corruption, especially if their livelihood is clearly threatened by loss of a sufficient number of patients. Physicians are already having their moral/ethical standards challenged on individual decisions on patient care. Some admit that they are not giving their patients what they need at this point in time, even with the managed care environment being relative liberal in the State of Oklahoma. As their income drops, as will almost surely occur in the future, it will become even more advantageous to deny treatment and to assist patients in terminating their lives, and physicians will have an ever-enlarging financial incentive to do so. Already, if physicians spend too much money on an individual patient, there is a penalty. They can be dropped from a plan or not allowed to enter and hence have no employment at all. Given the construct of many physicians now coming out of training who are in debt up to $50,000, the alternatives are very clear and totally defined. They will need to make a decision between being employed and paying their debt or becoming a pauper. Given the history of the medical profession elsewhere, one suspects that the rules, when they are produced by the third party, will be accepted with little remorse or regret! History verifies this concept.

Already, if physicians spend too much money on an individual patient, there is a penalty. They can be dropped from a plan or not allowed to enter and hence have no employment at all.

Lastly, there is the legal concept involved in managed care. There have already been several cases in the courts regarding treatment decisions. I offer to you the following scenario:

Attorney: Doctor, how are you reimbursed for your services from the HMO/third party? How are you paid, on a fee-for-service basis or on a capitated basis—a fixed fee is paid each month for the total care of the patient?

Physician: Well, it is capitated in the sense that our group has so much money to take total care of that patient.

Attorney: So then if your group (employer) loses money, what happens?

Physician: Well, if we (the plan) continue to lose money on a patient, ideally the patient has to leave the plan or we need to decrease the level of care for the patient.

Attorney: Let's say you have ten patients, all of whom overutilize medical services by $10,000 more than they paid in each year. What happens to you?

Physician: I would be reprimanded or disciplined. This would be done as education. It

would be made plain to me that this was not acceptable behavior on my part; that is, to spend that much money on those patients hurts our group's profit. After all, medical care is business and the company has to pay the stockholders, etc.

Attorney: Doctor, do you think your judgment might have been altered in Mr. Jones' case in writing a DNR order that really was not needed?

The rest of the scenario is quite clear as to what would happen in a jury's mind. When physicians are increasingly rewarded for *not* giving medical care, and this reward is financial, a jury would grasp the immediate implication for orders limiting care. I can assure you that if I were an attorney involved in such a case, I would certainly use this argument against defendant physicians. Many attorneys already have done so.

In conclusion, I would suggest that physicians think over very carefully the ethical/moral dilemma which prepaid/HMOs/managed care–type contracts impose upon them ethically, if the physician participates in a capitated fee. We are already seeing a shift in ethical and moral values—ethical being in the community and moral being in the individual physicians—relative to same. Given the historical prospective, physicians should return to being the patients' advocates. They should not take part in managed care programs in which they have a financial interest. If they do not have a financial interest in it, at the level of being a stockholder or getting a cut of the profit, then they had better be able to maintain their ethical integrity and judgment. Unfortunately, one doubts that the business climate in the United States will be such that even that ability will last very long.

This article was written prior to the publication of "Ethical Issues in Managed Care," *JAMA*, January 25, 1996, Vol. 273, No. 4, p. 330. For expanded coverage of the above issues, this is recommended reading.

Acknowledgment

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The Author

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The Hippocratic Oath

I swear by Apollo Physician, by Asclepius, by Health, by Heal-All, and by all the gods and goddesses, making them witnesses, that I will carry out, according to my ability and judgment, this oath and this indenture: To regard my teacher in this art as equal to my parents; to make him partner in my livelihood, and when he is in need of money to share mine with him; to consider his offspring equal to my brothers; to teach them this art, if they require to learn it, without fee or indenture; and to impart precept, oral instruction, and all the other learning, to my sons, to the sons of my teacher, and to pupils who have signed the indenture and sworn obedience to the physicians' Law, but to none other. I will use treatment to help the sick according to my ability and judgment, but I will never use it to injure or wrong them. I will not give poison to anyone though asked to do so, nor will I suggest such a plan. Similarly I will not give a pessary to a woman to cause abortion. But in purity and in holiness I will guard my life and my art. I will not use the knife on sufferers from stone, but I will give place to such as are craftsmen therein. Into whatsoever houses I enter, I will do so to help the sick, keeping myself free from all intentional wrong-doing and harm, especially from fornication with woman or man, bond or free. Whatsoever in the course of practice I see or hear (or even outside my practice in social intercourse) that ought never to be published abroad, I will not divulge, but consider such things to be holy secrets. Now if I keep this oath and break it not, may I enjoy honour, in my life and art, among all men for all time: but if I transgress and forswear myself, may the opposite befall me.

Report 59 of the AMA Board of Trustees (A-96)

Physician-Assisted Suicide

From the Reference Committee on Amendments to Constitution and Bylaws

Executive Summary

This Board of Trustees report calls for reaffirmation of the position of the American Medical Association (AMA) in opposition to physicians assisting their patients in committing suicide. The AMA maintains that the appropriate step for physicians is not to assist a patient in death but to provide compassion and palliative care. In providing end-of-life care, the option of allowing physicians to intentionally cause the death of patients is a line that should not be crossed. This position is based on the historical role of physicians as advocates for healing.

The report discusses AMA activity to design and implement a comprehensive physician education plan on end-of-life care in response to the House of Delegates' action in adopting Board of Trustees Report 48-I-95, "Quality Care at the End of Life." This plan will further the AMA's commitment that patients should receive high quality care during every stage of life, including the end of life. The goal of this educational campaign is to advance the medical culture by making palliative treatment and care directions based on values-based advance care planning the standard of care for meeting the needs of patients at the end of life. The basis for this activity will be the acknowledgment that physicians, while unable to always provide a cure, should always be able to relieve suffering, address the psychological needs of patients at the end of life, add value to remaining life, and help patients die with dignity.

The report presents information on state legislative activities and judicial actions relating to physician-assisted suicide. The report also presents a discussion on the ethical underpinnings against physician participation in patients' suicides.

This report recommends that: the AMA reaffirm current policies 140.952 and 140.966 (*AMA Policy Compendium*), in accordance with Council on Ethical and Judicial Affairs Opinion 2.211 (opposition to physician-assisted suicide); the AMA initiate an educational campaign to make palliative treatment and care directions based on values-based advance care planning the standard of care for meeting the needs of patients at the end of life; the AMA continue to seek out opportunities to present the views of medicine on physician-assisted suicide and improving the quality of care for patients at the end of life; the AMA disseminate this report throughout the Federation with a request that it be distributed to local physicians; and the Board of Trustees present the House of Delegates with an update on these and related activities at the 1996 Interim Meeting and the 1997 Annual Meeting.

(continued)

Report of the AMA Board of Trustees

B of T Report 59– A-96

Subject: Physician-Assisted Suicide
Presented by: Nancy W. Dickey, MD, Chair
Referred to: Reference Committee onAmendments to Constitution and Bylaws (Betty P. Stephenson, MD, Chair)

In the six months since the House of Delegates adopted Board of Trustees Report 48-I-95, "Quality Care at the End of Life," physician-assisted suicide has been the subject of considerable judicial, legislative, and media attention. While the American Medical Association (AMA) unequivocally opposes physicians assisting their patients in committing suicide, there is a need to clarify medicine's position in opposition to this practice. The issue must be viewed in the broad context of how care should be provided for patients at the end of life, and the AMA maintains that the added option of allowing physicians to intentionally cause the death of patients is a line that should not be crossed

In response to Report 48-I-95, the AMA is designing and will implement a comprehensive physician education plan on end-of-life care. This activity will further the AMA's commitment that patients should receive high quality care during every stage of life, including the end of life. The goal of this educational campaign is to make palliative treatment and care directions based on values-based advance care planning the standard of care for meeting the needs of patients at the end of life. The basis for this activity will be the acknowledgment that physicians, while unable to always provide a cure, should always be able to relieve suffering, address the psychological needs of patients at the end of life, add value to remaining life, and help patients die with dignity.

This report also describes recent events relating to physician-assisted suicide, calls for a reaffirmation of the AMA's policy and ethical stance in opposition to physician-assisted suicide, and sets forth the AMA's plan of action for the coming months.

Policy Background and AMA Directions

The AMA is steadfast in the position that the provision of assisted suicide is not compatible with the role of a physician. This position stems from the work of our Council on Ethical and Judicial Affairs (CEJA) and the policy positions taken by the House of Delegates. Both the policy of the AMA and CEJA Opinions are clear in their opposition to physician-assisted suicide. At the last meeting of the AMA's House of Delegates, the following statement was approved with no opposition:

- The AMA continues to oppose euthanasia and physician-assisted suicide as fundamentally inconsistent with the physician's role, recognizing that such practice could contribute to erosion of the patient/physician relationship. (Board of Trustees Report 48-I-95, Recommendation 13)

The *Code of Medical Ethics* leaves no question in expressing opposition to physician-assisted suicide (complete text of this and related Opinions are attached as Appendix B):

- **2.211 Physician-Assisted Suicide.**— Allowing physicians to participate in assisted suicide would cause more harm than good. Physician-assisted suicide is fundamentally incompatible with the physician's role as healer,

would be difficult or impossible to control, and would pose serious societal risks. Instead of participating in assisted suicide, physicians must aggressively respond to the needs of patients at the end of life. Patients should not be abandoned once it is determined that cure is impossible. Patients near the end of life must continue to receive emotional support, comfort care, adequate pain control, respect for patient autonomy, and good communication.

This Opinion is mirrored by AMA Policy 140.952 and 140.966, *AMA Policy Compendium* (attached as Appendix C). In spite of this well-founded policy, the volume of the physician-assisted suicide debate continues to swell. This report reflects the recognized need for the medical profession to present an unequivocal position on physician-assisted suicide and the basis for this position.

Physicians are sympathetic to the emotional concerns and arguments of those who endorse assisted suicide, including those patients who request active physician participation in assisted suicide. The complexities that give rise to such requests frequently stem from real psychological and physical needs, and physicians in almost every instance can meet these needs without taking actions that are designed to result in the patient's death. The Board is convinced that a thoughtful articulation of the physician's obligation to maintain the principles of ethical medicine will provide an effective response to recent events, facilitate a proactive educational effort, and better enable physicians in responding to the needs of their patients.

State Legislative Activities

The following 34 states expressly criminalize assisted suicide: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa (enacted after the issuance of the Ninth and Second Circuit rulings), Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Washington, and Wisconsin. In addition, the existing laws in New York and Washington remain in effect until final resolution of the appeals, and the Oregon ballot initiative remains invalid pending appeal. The following 10 states criminalize assisted suicide through common law: Alabama, Idaho, Maryland, Massachusetts, Michigan, Nevada, Rhode Island, South Carolina, Vermont, and West Virginia.

Assisted suicide laws are currently under court challenge in five states: California, Florida, New York, Oregon, and Washington. States that do not expressly prohibit assisted suicide include North Carolina, Utah, and Wyoming, and the law is unclear in Virginia.

> The physician must strive to understand and assist patients with the various and unique... factors that play out over the course of end-of-life care.

Legislation was introduced in several states during 1995 and 1996 that would legalize physician-assisted suicide. However, all of the bills died during the legislative session. States in which the measures failed include: Alaska, California, Colorado, Connecticut, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Mexico, New York, Washington, and Wisconsin. The recent Ninth and Second Circuit opinions have sparked, at the very least, heated debate on physician-assisted suicide laws. In Rhode Island, two diametrically opposed physician-assisted suicide bills are percolating in the state's legislature:

- The Rhode Island House bill, H 8244, would prohibit physician-assisted suicide and provide civil and criminal penalties for an individual who "knowingly assists in or provides an individual with the physical means to carry out a suicide attempt." The specified penalties include conviction of a felony punishable by imprisonment up to 30 years, a fine of up to $10,000, or both. The House bill carves out an exception for health professionals who administer, prescribe, or dispense medications or perform procedures to relieve an individual's pain or discomfort, even if the physician knows the medication could hasten the individual's death.

- The Rhode Island Senate measure, S 2985, legalizes physician-assisted suicide in defined circumstances. Specifically, physician-assisted suicide would be permitted in instances where an individual is at least 18 years of age with either a terminal illness or intractable pain due to an unbearable illness makes repeated and voluntary requests for assisted suicide are made at least 14 days apart. The final request must be made no more than 72 hours prior to the assisted suicide. The bill further requires that extensive information be provided to the requesting individual concerning the patient's prognosis and clinical alternatives, as well as thorough medical documentation of the individual's mental state and confirmed illness.

> Physicians who comply with the procedural requirements are immune from civil and criminal liability, as well as from professional disciplinary measures.

On May 1, 1996, the Rhode Island House bill overwhelmingly passed by a margin of 85 to 10, and it subsequently was the subject of a May 23, 1996, Senate committee hearing. By unanimous vote, the committee approved the House bill with added injunctive relief and increased civil penalties. This version of the bill was approved by the full Senate on May 30, and is now back in the House. To date, there has not been enough interest in the Senate bill to generate a hearing.

> Advocates of physician-assisted suicide often argue that it is the subjective experience of suffering that mandates the extension of patient autonomy to include physician-assisted suicide.

Finally, state regulatory activity also is pending. In response to the Second Circuit ruling, the New York Commissioner of Health has reactivated the New York State Task Force on Life and the Law, an advisory group to the governor and health department on bioethical issues, and has asked the Task Force to draft guidelines for assisted suicide in the event the Second Circuit's decision is upheld by the U.S. Supreme Court.

Judicial Activity

Decisions in the Ninth and Second Circuits have held that state laws in Washington and New York prohibiting the provision of physician-assisted suicide could not be upheld.

In the Ninth Circuit Court of Appeals in California, the judicial panel considered the case *Compassion in Dying v. Washington* and found a constitutional right to physician-assisted suicide for terminally ill competent adults who wish to hasten their death. This ruling overturned the finding of a smaller panel of the court. The ruling concluded that the Washington state law prohibiting assisted suicide was in violation of the due process clause of the U.S. Constitution, as it found a liberty interest in controlling the time and manner of one's death. The AMA had filed an *amicus curiae* brief in this case and its arguments were discussed in the decision. The Court summarily dismissed the important ethical precepts and practice principles of double effect in pain management; the Court also failed to find a distinction between withholding and withdrawing life-sustaining treatment and physician-assisted suicide. The Supreme Court has stayed the effect of this case, pending further Supreme Court action. The AMA plans to be active in future appeals of this ruling.

In the Second Circuit, the Court overturned a decision by a District Court (*Quill v. Vacco*) and found New York State laws criminalizing physician-assisted suicide to be unconstitutional. This ruling did not assume the scope of the Ninth Circuit decision, as it did not find a constitutional right to assisted suicide. Additionally, the court ruled on grounds different from those of the Ninth Circuit decision, finding the laws in violation of the equal protection clause of the 14th Amendment. The Court found no distinction between the physician's ability to withdraw life-sustaining treatment and the ability to administer life-ending measures, since this distinction denied terminally ill patients not on life support the opportunity to end their lives. The New York State Attorney General has announced plans to appeal this decision, and the AMA also will seek opportunities to be involved in these actions.

Both of these decisions are disturbing because they articulate constitutional support for the practice of physician-assisted suicide. Neither decision recognizes the vital clinical distinctions involved in end-of-life care, particularly the differences between the potential double effect in the administration of pain medication or withdrawal of life-sustaining treatment, and physician participation in assisting patients in committing suicide. Additionally, the decisions counter the ethical requirements of the medical profession, asserting and imposing a necessary role for physicians in assisted suicide. The courts also dismissed arguments about the potential threat assisted suicide poses for the more vulnerable classes of patients in our society, such as the uninsured, the disabled, and those on public assistance programs.

A third case, *Lee v. Oregon*, also is pending in the Ninth Circuit. This case deals with a challenge to Oregon's law legalizing physician-assisted suicide (approved by referendum and currently under injunction). One of the primary arguments in this case is that the law also violates the equal protection clause of the 14th Amendment as it does not allow competent, terminally ill people who are physically incapable of self-administering the lethal agent to act under the law. The AMA is carefully tracking developments in this case.

A Michigan jury last April decided that death was a secondary result of Jack Kevorkian's treatment of administering a lethal agent for two nonterminal patients even in an instance where the patients' only reasonable expectation from the "care" provided would be death. Now, the responsibility is on the AMA and the medical profession

to effectively educate jurists and society on: the capabilities of physicians to provide high quality, ethical care for patients at the end of life; and the fact that adherence to ethical medical practice does not allow a role for physicians to assist in suicide.

Ethical Perspective

Physicians, by the nature of their calling, have compassion for those who suffer pain and indignity at the end of life. Instead of assisting those patients in committing suicide, this compassion and respect for patient dignity instills a demand on the profession to focus on providing quality care at the end of life. For the reasons set out in CEJA Report 8-I-93, "Physician-Assisted Suicide" (attached as Appendix C), the cost to society of physician-assisted suicide is simply too high.

The physician's primary obligation is to advocate for the individual patient. At the end of life, this means that the physician must strive to understand and assist patients with the various and unique existential, psychological, and physiological factors that play out over the course of end-of-life care. Permitting physician involvement in assisted suicide would impose a significant and irreversible course change in the patient/physician relationship. We are concerned that the patient's trust in the doctor's wholehearted devotion to his or her best interests will be difficult to sustain once doctors are licensed to facilitate death. In his April 29, 1996, testimony to the Subcommittee on the Constitution of the House Judiciary Committee, noted medical ethicist Leon Kass, MD, elucidated this very point:

> Do we really want our doctors to be licensed agents of death? Should they be permitted or encouraged to prescribe (and, later, to inject) poison? Shall the mantle of privacy that protects the doctor-patient relationship, in the service of life, now also cloak decisions for death? Do you want your doctor deciding, on the basis of his own private views, when you still deserve to live and when you now deserve to die, when you should be offered death as a "therapeutic option"? And what about the doctor you would never go to: do you want him also licensed to kill? In short, shall the healing profession become also the death-dealing profession?
>
> The taboo against doctors killing patients even on request is thus the very embodiment of reason and wisdom. Without it, medicine will cease to be an ethical and trustworthy profession; without it, all of us will suffer—yes, more than we now suffer because some of us do not die soon enough.

Incorporating assisted suicide into the physician's armamentarium is a contradiction with far-reaching implications. On an individual basis, the balance between familial, emotional, and financial pressures may dictate a care choice that may be inconsistent with realistic options to actually improve a patient's health care status. On a societal basis, the clinical option of death would significantly dull the incentive to improve the situation of terminally ill patients generally. By creating an easy and always final answer, the door is closed to breakthroughs on easing and enhancing the lives of those who are dying.

The consequences of physician-assisted suicide are irreversible and the practice is not susceptible to controls. Logical and constitutional arguments facilitate the application of death-causing interventions to wider populations of patients, and it is difficult if not impossible to imagine safeguards that would limit the scope of assisted suicide and protect vulnerable patients from euthanasia.

> In addition to this report focusing on physician-assisted suicide, the Board of Trustees is convinced that significant educational outreach on the broader and encompassing issue of end-of-life care is essential.

Advocates of physician-assisted suicide often argue that it is the subjective experience of suffering that mandates the extension of patient autonomy to include physician-assisted suicide. However, arguments founded on this point and supported by court rulings recognizing the liberty interests of patients to make these decisions cannot logically delineate necessary safeguards against abuse. Dr. Kass addressed this issue in his testimony when he stated:

> For who is to say what makes suffering or life "unbearable" or death "electable" for another person? The autonomy argument favored by the courts sooner or later kicks out all criteria for evaluating the patient's choice, save that it be "uncoerced."
>
> Simple reflection reveals another reason why no law can provide the desired protection against the slide into mercy killing and involuntary euthanasia. The entire practice must take place within the sanctuary of the doctor-patient relationship. Neither patient nor physician wants outsiders looking in. Herein lies

an unresolvable dilemma: How can we insist that euthanasia is a matter of personal right and private choice, best handled privately between patient and doctor, and yet expect there to be appropriate oversight, public accountability, and control?

Studies show that the majority of terminal patients feel they are an emotional or financial burden to their loved ones and caretakers. For these patients, assisted suicide becomes a simple solution to the complicated economic and social concerns that often characterize the end of life. The pressure that would result from a shift in the societal norm surrounding end-of-life care would cause many patients to seek physician-assisted suicide because their perceptions of burden would be exacerbated by a perceived duty to protect the emotional and financial resources of their family and society. These coercive effects would be disproportionately experienced by the poor, the disenfranchised, and other vulnerable populations who lack the social and financial supports necessary to withstand such pressure.

> The expectation is that by providing physicians with enhanced tools to facilitate improved care at the end of life, the AMA will be able to overturn many of the arguments upon which proponents of assisted suicide rely so heavily.

AMA Activities

The AMA has not been hesitant in publicly condemning physician-assisted suicide. However, the often strident nature of the public debate on this issue caused the Board of Trustees to revisit the AMA's policies and actions on physician-assisted suicide. Described below are a variety of activities designed to place the AMA's policy in a broader context, and to join the public debate on a number of fronts.

In recent months, the AMA participated in an Institute of Medicine hearing before its Committee on Care at the End of Life, and the Association also testified before the Constitution Subcommittee of the House Committee on the Judiciary. In addition, the AMA continues to seek forums for open discussion and debate in which our position can be represented to a broad audience.

Educational Activity.— In addition to this report focusing on physician-assisted suicide, the Board of Trustees is convinced that significant educational outreach on the broader and encompassing issue of end-of-life care is essential. As recognized in Board of Trustees Report 48-I-95, "more proactive and forceful measures may be needed to improve the experiences of seriously ill and dying patients."

To this end, the AMA is designing and will implement a comprehensive physician education plan on end-of-life care issues. (We anticipate having this funded through a grant from a major foundation.) The goal will be for the AMA to accomplish a change in the medical culture through its enduring commitment to providing the best patient care during every stage of life, including the end of life. Through this educational campaign, the AMA intends to make values-based advance care planning and a holistic brand of palliative treatment the standard of care throughout medical practice.

In addition to improving the quality of care for those facing the end of life, the expectation is that, by providing physicians with enhanced tools to facilitate improved care at the end of life, the AMA will be able to overturn many of the arguments upon which proponents of assisted suicide rely so heavily. Requests for assisted suicide are very infrequent and will diminish even further if this educational effort succeeds in improving the quality of care for those at the end of life by understanding their care objectives and through better palliative care and other comfort measures.

Communications Activity.— Based on current activity, the AMA is a major player in the evolving debate on physician-assisted suicide. However, the time has come for the AMA to more proactively educate the public on the critical nuances of its position by redefining the debate on a higher level. In continuing to stand by AMA policy and ethical opinions with regard to physician-assisted suicide, we will engage in constructive debate and not project an image of stridency or arrogance. The basis for this activity will be the acknowledgment that physicians, while unable to always provide a cure, should always be able to relieve suffering, address the psychological needs of patients at the end of life, add value to remaining life, and help patients die with dignity. Some of the scheduled communications activities include:

- ***White Paper:*** A white paper on physician-assisted suicide is being developed, with the goal being publication in a major, peer-reviewed medical journal. The paper will address five major areas: the constitutionality of physician-assisted suicide; whether physician-assisted suicide is consistent with sound medical ethics; the "slippery slope" issue; the history of

the debate; and whether informed consent for suicide can ever really qualify as informed.

- *Leadership Meeting:* The AMA is planning to convene a meeting of medical and other health-related groups with similar policy or opinions on physician-assisted suicide. The goal will be to discuss methods for addressing the issue as a group; to review each other's policy; and, when necessary, to develop and present joint statements. This coalition could develop additional initiatives to educate the national press and public on the complex issues surrounding physician-assisted suicide.

- *Physician-Assisted Suicide Forums:* The AMA is initiating inquiries into the possibility of co-hosting and/or participating in open forums with entities whose opinions on the topic of physician-assisted suicide differ from ours. The AMA welcomes a healthy and open debate on this issue, and we believe that our stance will be well received. In light of this, participation in educational and open discussion forums, appropriate for media coverage, is one of our goals. In addition to public education, we recognize the need to educate the press with regard to the subtleties and nuances of the physician-assisted suicide issue.

These initiatives reflect actions that already are scheduled for this summer and they are in addition to reactive activities which must and will be initiated as needed.

Conclusion

The multiple questions all physicians face when confronted by the end of life do not lend themselves to simple answers, and physician-assisted suicide is just one of these questions. The position taken by the AMA in opposition to physician-assisted suicide will not be popular in all circles. However, the underlying tenet of the physician working to fulfill his or her role as the advocate to improve health or provide comfort care for his or her patient should be the subject of virtually universal agreement.

Physicians are in a unique position where their ability enables them to maintain and improve the quality of life in situations where death previously was the expected and natural outcome. Physicians should never be allowed to say *no* to seeking to improve an individual's health care status.

Recommendations

The Board of Trustees recommends that the following recommendations be adopted, and that the remainder of the report be filed:

1. That the AMA reaffirm Policies 140.952 and 140.966, in accordance with CEJA Current Opinion 2.211;
2. That the AMA initiate an educational campaign to make palliative treatment and care directions based on values-based advance care planning the standard of care for meeting the needs of patients at the end of life;
3. That the AMA continue to seek out opportunities to present the views of medicine on physician-assisted suicide and improving the quality of care for patients at the end of life;
4. That the AMA disseminate this report throughout the Federation with a request that it be distributed to local physicians; and
5. That the Board of Trustees present the House of Delegates with an update on these and related activities at the 1996 Interim Meeting and the 1997 Annual Meeting.

> Physicians have an obligation to relieve pain and suffering and to promote the dignity and autonomy of dying patients in their care. This includes providing effective palliative treatment even though it may foreseeably hasten death.

Appendix A

Opinions of the Council on Ethical and Judicial Affairs

Opinion 217—Quality of Life.— In the making of decisions for the treatment of seriously disabled newborns or of other persons who are severely disabled by injury or illness, the primary consideration should be what is best for the individual patient and not the avoidance of a burden to the family or to society. Quality of life, as defined by the patient's interests and values, is a factor to be considered in determining what is best for the individual. It is permissible to consider quality of life when deciding about life-sustaining treatment in accordance with Opinions E-2.20, E-2.215, and E-2.22. Updated June 1994; Issued March 1981. (I, III, IV)

Opinion 2.20—Withholding or Withdrawing Life-Sustaining Medical Treatment.— The social commitment of the physician is to sustain life and

relieve suffering. Where the performance of one duty conflicts with the other, the preferences of the patient should prevail. The principle of patient autonomy requires that physicians respect the decision to forego life-sustaining treatment of a patient who possesses decision-making capacity. Life-sustaining treatment is any treatment that serves to prolong life without reversing the underlying medical condition. Life-sustaining treatment may include, but is not limited to, mechanical ventilation, renal dialysis, chemotherapy, antibiotics, and artificial nutrition and hydration.

> Requests for physician-assisted suicide should be a signal to the physician that the patient's needs are unmet and further evaluation to identify the elements contributing to the patient's suffering is necessary.

There is no ethical distinction between withdrawing and withholding life-sustaining treatment. A competent adult patient may, in advance, formulate and provide a valid consent to the withholding or withdrawal of life-support systems in the event that injury or illness renders that individual incompetent to make such a decision.

If the patient receiving life-sustaining treatment is incompetent, a surrogate decision maker should be identified. Without an advance directive that designates a proxy, the patient's family should become the surrogate decision maker. Family includes persons with whom the patient is closely associated. In the case when there is no person closely associated with the patient, but there are persons who both care about the patient and have sufficient relevant knowledge of the patient, such persons may be appropriate surrogates. Physicians should provide all relevant medical information and explain to surrogate decision makers that decisions regarding withholding or withdrawing life-sustaining treatment should be based on substituted judgment (what the patient would have decided) when there is evidence of the patient's preferences and values. In making a substituted judgment, decision makers may consider the patient's advance directive (if any); the patient's values about life and the way it should be lived; and the patient's attitudes towards sickness, suffering, medical procedures, and death. If there is not adequate evidence of the incompetent patient's preferences and values, the decision should be based on the best interests of the patient (what outcome would most likely promote the patient's well-being).

Though the surrogate's decision for the incompetent patient should almost always be accepted by the physician, there are four situations that may require either institutional or judicial review and/or intervention in the decision making process: (1) there is no available family member willing to be the patient's surrogate decision maker, (2) there is a dispute among family members and there is no decision maker designated in an advance directive, (3) a health care provider believes that the family's decision is clearly not what the patient would have decided if competent, and (4) a health care provider believes that the decision is not a decision that could reasonably be judged to be in the patient's best interests. When there are disputes among family members or between family and health care providers, the use of ethics committees specifically designed to facilitate sound decision making is recommended before resorting to the courts.

When a permanently unconscious patient was never competent or had not left any evidence of previous preferences or values, since there is no objective way to ascertain the best interests of the patient, the surrogate's decision should not be challenged as long as the decision is based on the decision maker's true concern for what would be best for the patient.

Physicians have an obligation to relieve pain and suffering and to promote the dignity and autonomy of dying patients in their care. This includes providing effective palliative treatment even though it may foreseeably hasten death. Even if the patient is not terminally ill or permanently unconscious, it is not unethical to discontinue all means of life-sustaining medical treatment in accordance with a proper substituted judgment or best interests analysis. Issued March 1981 (Opinion E-2.11: Terminal Illness) and December 1984 (Opinion E-2.19: Withholding or Withdrawing Life-Prolonging Medical Treatment: Patient's Preferences, renumbered as Opinion E-2.21 in August 1989). (I, III, IV, V)

Opinion 2.211—Physician-Assisted Suicide.— Physician-assisted suicide occurs when a physician facilitates a patient's death by providing the necessary means and/or information to enable the patient to perform the life-ending act (e.g., the physician provides sleeping pills and information about the lethal dose, while aware that the patient may commit suicide).

It is understandable, though tragic, that some patients in extreme duress, such as those suffering from a terminal, painful, debilitating illness, may come to decide that death is preferable to life. However, allowing physicians to participate

in assisted suicide would cause more harm than good. Physician-assisted suicide is fundamentally incompatible with the physician's role as healer, would be difficult or impossible to control, and would pose serious societal risks.

Instead of participating in assisted suicide, physicians must aggressively respond to the needs of patients at the end of life. Patients should not be abandoned once it is determined that cure is impossible. Patients near the end of life must continue to receive emotional support, comfort care, adequate pain control, respect for patient autonomy, and good communication. Issued June 1994 based on the reports "Decisions Near the End of Life," issued June 1991, and "Physician-Assisted Suicide," issued December 1993. (I, IV)

Appendix B

Policy of the American Medical Association: PHYSICIAN-ASSISTED SUICIDE

Policy 140.952—Physician-Assisted Suicide.— It is the policy of the AMA that:

1. Physician-assisted suicide is fundamentally inconsistent with the physician's professional role.
2. It is critical that the medical profession redouble its efforts to ensure that dying patients are provided optimal treatment for their pain and other discomfort. The use of more aggressive comfort care measures, including greater reliance on hospice care, can alleviate the physical and emotional suffering that dying patients experience. Evaluation and treatment by a health professional with expertise in the psychiatric aspects of terminal illness can often alleviate the suffering that leads a patient to desire assisted suicide.
3. Physicians must resist the natural tendency to withdraw physically and emotionally from their terminally ill patients. When the treatment goals for a patient in the end stages of a terminal illness shift from curative efforts to comfort care, the level of physician involvement in the patient's care should in no way decrease.
4. Requests for physician-assisted suicide should be a signal to the physician that the patient's needs are unmet and further evaluation to identify the elements contributing to the patient's suffering is necessary. Multidisciplinary intervention, including specialty consultation, pastoral care, family counseling and other modalities, should be sought as clinically indicated.
5. Further efforts to educate physicians about advanced pain management techniques, both at the undergraduate and graduate levels, are necessary to overcome any shortcomings in this area. Physicians should recognize that courts and regulatory bodies readily distinguish between use of narcotic drugs to relieve pain in dying patients and use in other situations. (CEJA Rep. I-93-8)

Policy 140.966—Decisions Near the End of Life.— The AMA believes that:

1. The principle of patient autonomy requires that physicians must respect the decision to forego life-sustaining treatment of a patient who possesses decision-making capacity. Life-sustaining treatment is any medical treatment that serves to prolong life without reversing the underlying medical condition. Life-sustaining treatment includes, but is not limited to, mechanical ventilation, renal dialysis, chemotherapy, antibiotics, and artificial nutrition and hydration.
2. There is no ethical distinction between withdrawing and withholding life-sustaining treatment.
3. Physicians have an obligation to relieve pain and suffering and to promote the dignity and autonomy of dying patients in their care. This includes providing effective palliative treatment even though it may foreseeably hasten death. More research must be pursued examining the degree to which palliative care reduces the requests for euthanasia or assisted suicide.

> It is ethically acceptable for a physician to gradually increase the appropriate medication for a patient, realizing that the medication may depress respiration and cause death.

Physicians must not perform euthanasia or participate in assisted suicide. A more careful examination of the issue is necessary. Support, comfort, respect for patient autonomy, good communication, and adequate pain control may decrease dramatically the public demand for euthanasia and assisted suicide. In certain carefully defined circumstances, it would be humane to recognize that death is certain and suffering is great. However, the societal risks of involving physicians in medical interventions to cause pa-

tients' deaths is too great to condone euthanasia or physician-assisted suicide at this time. (CEJA Rep. B, A-91)

Appendix C

Report 8 of the Council on Ethical and Judicial Affairs: PHYSICIAN-ASSISTED SUICIDE

December 1993

Introduction

Physician-assisted suicide presents one of the greatest contemporary challenges to the medical profession's ethical responsibilities. Proposed as a means toward more humane care of the dying, assisted suicide threatens the very core of the medical profession's ethical integrity.

While the Council on Ethical and Judicial Affairs has long-standing policy opposing euthanasia, it did not expressly address the issue of assisted suicide until its June 1991 report, "Decisions Near the End of Life." In that report, the Council concluded that physician-assisted suicide is contrary to the professional role of physicians and that therefore physicians "must not... participate in assisted suicide." Previously, the Council had issued reports rejecting the use of euthanasia. In June 1977, the Council stated that "mercy killings or euthanasia—is contrary to public policy, medical tradition, and the most fundamental measures of human value and worth." Similarly, in June 1988, the Council reaffirmed "its strong opposition to 'mercy killing.'"

Broad public debate of assisted suicide was sparked in June 1990, when Dr. Jack Kevorkian assisted in the suicide of Janet Adkins. The debate was advanced in March 1991 when Dr. Timothy Quill disclosed his assistance in the suicide of Diane Trumbull. Other public events quickly followed. Physician-assisted suicide, together with euthanasia, was placed on the public ballot in Washington State in November 1991, and in California in November 1992. Both times, voters turned down proposals to legalize physician-assisted dying. In September 1993, by a vote of 5-4, Canada's Supreme Court denied a woman's request to end her life by assisted suicide. In 1994, voters in Oregon will decide whether to legalize assisted suicide in their state.

Resolution 3, introduced at the 1993 Annual Meeting by the Medical Student Section and referred to the Board of Trustees by the House of Delegates, requested an ethical study of assisted suicide. In this report, the Council revisits the issue of physician-assisted suicide.

Definitions

Assisted suicide occurs when a physician provides a patient with the medical means and/or the medical knowledge to commit suicide. For example, the physician could provide sleeping pills and information about the lethal dose, while aware that the patient is contemplating suicide. In physician-assisted suicide, the patient performs the life-ending act, whereas in euthanasia, the physician administers the death-causing drug or other agent.

Assisted suicide and euthanasia should not be confused with the provision of a palliative treatment that may hasten the patient's death ("double effect"). The intent of the palliative treatment is to relieve pain and suffering, not to end the patient's life, but the patient's death is a possible side effect of the treatment. It is ethically acceptable for a physician to gradually increase the appropriate medication for a patient, realizing that the medication may depress respiration and cause death.

Assisted suicide also must be distinguished from withholding or withdrawing life-sustaining treatment, in which the patient's death occurs because the patient or the patient's proxy, in consultation with the treating physician, decides that the disadvantages of treatment outweigh its advantages and therefore that treatment is refused.

Ethical Considerations

1. Inappropriate Extension of the Right to Refuse Treatment.— In granting patients the right to refuse life-sustaining medical treatment, society has acknowledged the right of patients to self-determination on matters of their medical care even if the exercise of that self-determination results in the patient's death. Because any medical treatment offers both benefits and detriments, and people attach different values to those benefits and detriments, only the patient can determine whether the advantages of treatment outweigh the disadvantages. As the Council has previously concluded, "[t]he principle of patient autonomy requires that physicians must respect the decision to forgo life-sustaining treatment of a patient who possesses decision-making capacity."

Although a patient's choice of suicide also represents an expression of self-determination, there is a fundamental difference between refusing life-sustaining treatment and demanding a life-ending treatment. The right of self-determination is a right to accept or refuse offered interventions,

but not to decide what should be offered. The right to refuse life-sustaining treatment does not automatically entail a right to insist that others take action to bring on death.

When a life-sustaining treatment is declined, the patient dies primarily because of an underlying disease. The illness is simply allowed to take its natural course. With assisted suicide, however, death is hastened by the taking of a lethal drug or other agent. Although a physician cannot force a patient to accept a treatment against the patient's will, even if the treatment is life-sustaining, it does not follow that a physician ought to provide a lethal agent to the patient. The inability of physicians to prevent death does not imply that physicians are free to help cause death.

For a number of reasons, the medical profession has rejected assisted suicide as fundamentally inconsistent with the professional role of physicians as healers. Indeed, according to the Hippocratic Oath, physicians shall "give no deadly drug to any, though it be asked of [them], nor will [they] counsel such." Physicians serve patients not because patients exercise self-determination but because patients are in need. Therefore, a patient may not insist on treatments that are inconsistent with sound medical practices. Rather, physicians provide treatments that are designated to make patients well, or as well as possible. The physician's role is to affirm life, not hasten its demise.

Permitting assisted suicide would compromise the physician's professional role also because it would involve physicians in making inappropriate value judgments about the quality of life. Indeed, with the refusal of life-sustaining treatment, society does not limit the right to refuse treatment only to patients who meet a specific standard of suffering. With refusal of treatment, the state recognizes that the patient (or the patient's proxy) alone can decide that there no longer is a meaningful quality of life.

Objections to causing death also underlie religious views on assisted suicide. Most of the world's major religions oppose suicide in all forms and do not condone physician-assisted suicide even in cases of suffering or imminent death. In justification of their position, religions generally espouse common beliefs about the sanctity of human life, the appropriate interpretation of suffering, and the subordination of individual autonomy to a belief in God's will or sovereignty.

2. The Physician's Role.— The relief of suffering is an essential part of the physician's role as healer, and some patients seek assisted suicide because they are suffering greatly. Suffering is a complex process that may exist in one or several forms, including pain, loss of self-control and independence, a sense of futility, loss of dignity, and fear of dying. It is incumbent upon physicians to discuss and identify the elements contributing to the patient's suffering and address each appropriately. The patient, and family members as well, should participate with the physician to ensure that measures to provide comfort will be given the patient in a timely fashion.

One of the greatest concerns reported by patients facing a terminal illness or chronic debilitation is the fear that they will be unable to receive adequate relief for their pain. Though there is some basis for this fear in a small number of cases, for most patients' pain can be adequately controlled. Inadequate pain relief is only rarely due to the unavailability of effective pain control medications; more often, it may be caused by reluctance on the part of physicians to use these medications aggressively enough to sufficiently alleviate the patient's pain. Further efforts to educate physicians about advanced pain management techniques, both at the undergraduate and graduate levels, are necessary to overcome any shortcomings in this area.

> Although a patient's choice of suicide also represents an expression of self-determination, there is a fundamental difference between refusing life-sustaining treatment and demanding a life-ending treatment.

Pain control medications should be employed in whatever dose necessary, and by whatever route necessary, to fully relieve the patient's pain. The patient's treatment plan should be tailored to meet the particular patient's needs. Some patients will request less pain control in order to remain mentally lucid; others may need to be sedated to the point of unconsciousness. Ongoing discussions with the patient, if possible, or with the patient's family or surrogate decision maker will be helpful in identifying the level of pain control necessary to relieve the patient's suffering in accordance with the patient's treatment goals. Techniques of patient controlled analgesia (PCA) enhance the sense of control of terminally ill patients, and, for this reason, are particularly effective. Often, it is the loss of control, rather than physical pain, that causes the most suffering for dying patients.

The first priority for the care of patients facing severe pain as a result of a terminal illness or chronic condition should be the relief of their pain. Fear of addiction to pain medications should not

be a barrier to the adequate relief of pain. Nor should physicians be concerned about legal repercussions or sanctions by licensing boards. The courts and regulatory bodies readily distinguish between use of narcotic drugs to relieve pain in dying patients and use in other situations. Indeed, it is well accepted both ethically and legally that the pain medications may be administered in whatever necessary dose to relieve the patient's suffering, even if the medication has the side-effect of causing addiction or of causing death through respiratory depression.

Relieving the patient's psychosocial and other suffering is as important as relieving the patient's pain. When the treatment goals for a patient in the end stages of a terminal illness shift from curative efforts to comfort care, the level of physician involvement in the patient's care should in no way decrease. Patients in these circumstances must be managed "in a setting of [the patient's] own choosing, as free as possible from pain and other burdensome symptoms, and with the optimal psychological and spiritual support of family and friends." Because the loss of control may be the greatest fear of dying patients, all efforts should be made to maximize the patient's sense of control.

It is well accepted both ethically and legally that the pain medications may be administered in whatever necessary dose to relieve the patient's suffering, even if the medication has the side-effect of causing addiction or of causing death through respiratory depression.

Accomplishing these goals requires renewed efforts from physicians, nurses, family members, and other sources of psychological and spiritual support. Often, the patient's despair with his or her quality of life can be relieved by psychiatric intervention. Seriously ill patients contemplating suicide may develop a renewed desire to live as a result of counseling and/or anti-depressant medications. When requests for assisted suicide occur, it is important to provide the patient with an evaluation by a health professional with expertise in psychiatric aspects of terminal illness.

The hospice movement has made great strides in providing comfort care to patients at the end of life. In hospice care, the patient's symptoms, including pain, are aggressively treated to make the patient as comfortable as possible, but efforts to extend the patient's life are usually not pursued. Hospice patients are often cared for at home, or, if their condition requires care to be delivered in an institutional setting, intrusive medical technology is kept to a minimum. The provision of a humane, low-technology environment in which to spend their final days can go far in alleviating patients' fears of an undignified, lonely, technologically dependent death.

Physicians must not abandon or neglect the needs of their terminally ill patients. Indeed, the desire for suicide is a signal to the physician that more intensive efforts to comfort and care for the patient are needed. Physicians, family, and friends can help patients near the end of life by their presence and by their loving support. Patients may feel obligated to die in order to spare their families the emotional and financial burden of their care or to spare limited societal resources for other health care needs. While patients may rationally and reasonably be concerned about the burden on others, physicians and family members must reassure patients that they are under no obligation to end their lives prematurely because of such concerns.

In some cases, terminally ill patients voluntarily refuse food or oral fluids. In such cases, patient autonomy must be respected and forced feeding or aggressive parental rehydration should not be employed. Emphasis should be placed on renewed efforts at pain control, sedation, and other comfort care for the associated discomfort.

3. "Slippery Slope" Concerns.— Permitting assisted suicide opens the door to policies that carry far greater risks. For example, if assisted suicide is permitted, then there is a strong argument for allowing euthanasia. It would be arbitrary to permit patients who have the physical ability to take a pill to end their lives, but not let similarly suffering patients die if they require the lethal drug to be administered by another person. Once euthanasia is permitted, however, there is a serious risk of involuntary death. Given the acceptance of withdrawal of life-sustaining treatment by proxies for incompetent patients, it would be easy for society to permit euthanasia for incompetent patients by proxy.

The Dutch experience with euthanasia demonstrates the risks of sanctioning physician-assisted suicide. In the Netherlands, there are strict criteria for the use of euthanasia that are similar to the criteria proposed for assisted suicide in the United States. In the leading study of euthanasia in the Netherlands, however, researchers found that, in about 28% of cases of euthanasia or physician-assisted suicide, the strict criteria were not fulfilled, suggesting that some patients' lives were ended prematurely or involuntarily. In a number of cases, the decision to end the patient's life was made by a surrogate decision maker since the

patient had lost decision-making capacity by the time the decision to employ euthanasia was made.

Recommendations

In lieu of Resolution 3 (A-93) the Council on Ethical and Judicial Affairs recommends that the following statements be adopted:

1. Physician-assisted suicide is fundamentally inconsistent with the physician's professional role.
2. It is critical that the medical profession redouble its efforts to ensure that dying patients are provided optimal treatment for their pain and other discomfort. The use of more aggressive comfort care measures, including greater reliance on hospice care, can alleviate the physical and emotional suffering the dying patients experience. Evaluation and treatment by a health professional with expertise in the psychiatric aspects of terminal illness can often alleviate the suffering that leads a patient to desire assisted suicide.
3. Physicians must resist the natural tendency to withdraw physically and emotionally from their terminally ill patients. When the treatment goals for a patient in the end stages of a terminal illness shift from curative efforts to comfort care, the level of physician involvement in the patient's care should in no way decrease.
4. Requests for physician-assisted suicide should be a signal to the physician that the patient's needs are unmet and further evaluation to identify the elements contributing to the patient's suffering is necessary. Multidisciplinary intervention, including specialty consultation, pastoral care, family counseling, and other modalities, should be sought as clinically indicated.
5. Further efforts to educate physicians about advance pain management techniques, at both the undergraduate and graduate levels, are necessary to overcome any shortcomings in this area. Physicians should recognize that courts and regulatory bodies readily distinguish between use of narcotic drugs to relieve pain in dying patients and use in other situations.

(References pertaining to Report 8 of the Council on Ethical and Judicial Affairs are available from the Office of the General Counsel.)

❧ Now if I keep this oath and break it not, may I enjoy honour, in my life and art, among all men for all time: but if I transgress and forswear myself, may the opposite befall me.

Now Accepting Entries
Mark R. Johnson Competition
"Excellence in Medical Writing"

The Editorial Board of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION and the OSMA Board of Trustees are proud to announce the 1996 Mark R. Johnson Competition—Excellence in Medical Writing.

A $500 cash award will be presented to the medical student or resident at the University of Oklahoma College of Medicine (Oklahoma City or Tulsa campus) who, by December 31, 1996, submits the best scientific paper or opinion piece for publication in the JOURNAL.

Entries will be judged by the JOURNAL's Editorial Board at its annual meeting next March and the winner, if any, will be announced at the Annual Meeting of the OSMA House of Delegates in April 1997. All decisions of the Editorial Board will be final.

The student or resident submitting the paper need not be the *sole* author, but must be the *lead* author and must have done the majority of the writing. Entries in the competition should be clearly labeled as such when submitted.

Entries should be mailed to: Mark R. Johnson Competition, OSMA JOURNAL, 601 West I-44 Service Road, Oklahoma City, OK 73118. For additional information, call (405) 843-9571 or 1-800-522-9452.

The memorial trust that funds this competition was established by the friends and family of Mark R. Johnson, MD, who, during his two decades as editor-in-chief of the OSMA JOURNAL, exemplified the very best in both expository and opinion writing in the field of medicine.

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OSMA Board of Trustees holds July meeting

In a long but relatively routine meeting on July 14 in Oklahoma City, the OSMA Board of Trustees took the following actions:

- Approved the appointment of David Russell, MD, Enid, to fill the unexpired term of District III Trustee James S. Gerber, MD, Okarche. The term will expire in 1997.
- Heard a report from President David L. Harper, MD, Tulsa, announcing the hiring of two new experienced lobbyists for the OSMA: Vickie White Rankin, who will be working at the grassroots level with activities such as OMPAC, and Lynne White, who will maintain an active presence at the state capitol.
- Received a report that in a meeting of OSMA leaders and leaders of the osteopathic association, the osteopathic leadership indicated they do not want OSMA membership opened to them at this time.
- Heard from Dr. Jay Gregory that Ms. Rankin and Ms. White are compiling a rating of Oklahoma legislators' voting records to assist OMPAC in its distribution of funds. He noted that currently only 661 physicians belong to OMPAC and encouraged greater support.
- Were told that as part of her work at the capitol, Ms. White will brief physicians serving as Doctor of the Day so they can serve as proponents of OSMA positions while at the capitol.
- Voted unanimously to ask the Oklahoma Centralized Verification Organization (OCVO), based in Tulsa, to prepare a proposal of joint venture with the OSMA. The proposal is to be presented at the next OSMA board meeting.
- Received a request from Dr. Gregory that the AMA delegation be granted space for an on-going column in the JOURNAL.
- Voted to refer the Education and Research Foundation (ERF) Bylaws to the Constitution and Bylaws Committee for study.
- At the recommendation of Dr. Ed Brandt, voted that the OSMA join the National Advisory Council on Family Violence.
- Approved the replacement of heat and air units and the roof on the OSMA annex building.
- Voted to ask C.L. Frates and Company to assist in obtaining another bid on replacement of the roof on the main OSMA headquarters building, said replacement to be with material similar to the existing one.
- Passed a motion to periodically re-bid the commercial lines insurance (property/general liability/crime coverage) on the headquarters building.
- Voted that the OSMA be the lead agency in the Tobacco Free Coalition's application for a Robert Woods Johnson Foundation grant.
- Approved Life Membership applications for Charles Chediak, MD, Oklahoma City; Joseph LeBlanc, MD, Bartlesville; and Donald R. Inbody, MD, Tulsa.
- Decided to hold its October 13 meeting in Oklahoma City, rather than in Ponca City, as previously announced. The February 2 meeting will be in Ponca City. ❑

State delegation reports from AMA

AMA adopts Oklahoma's HIV policy for pregnant women.—The Oklahoma delegation to the American Medical Association meeting in June succeeded in changing AMA policy on testing pregnant women for HIV. While former AMA policy "encouraged" physicians to discuss HIV testing with their pregnant patients, a resolution from the Oklahoma delegation, adopted by the AMA House of Delegates, called for mandatory HIV testing of pregnant women.

The Oklahoma resolution read:

Whereas, Prevention of transmission of HIV during pregnancy to the infant is possible; and

Whereas, AZT given to HIV mothers from the 14th week of pregnancy and to those infants, decreased the number of infected babies from 25% to 8%; and

Whereas, Mandatory testing for HIV of newborns at birth is too late to prevent perinatal transmission of the virus; now therefore be it

Resolved, That the American Medical Association support the position that there should be mandatory HIV testing of all pregnant women and newborns with counseling and recommendations for appropriate treatment.

(continued)

AMA meeting *(continued)*

The original resolution written for the OSMA House of Delegates by the OSMA Perinatal Task Force, chaired by OSMA Vice-President Mary Anne McCaffree, MD, called for "routine" rather than "mandatory" testing. However, the OSMA House of Delegates felt evidence indicated the treatment of infected mothers with AZT so significantly reduced the number of HIV-positive babies that mandatory HIV testing for all pregnant women was warranted.

The AMA reference committee recommended that the Oklahoma resolution *not* be adopted and offered compromise language that encouraged the AMA to "develop a standard of care under which physicians must provide all pregnant women with education and counseling on HIV, including the risks of vertical transmission and the possible benefits of testing and treatment."

After considerable debate, the original Oklahoma resolution recommending mandatory testing passed by a vote of 185 to 181.

AMA delegates address other Oklahoma resolutions.—In addition to the HIV resolution, the AMA House of Delegates took the following actions on other resolutions submitted by the OSMA:

- Combined an Oklahoma resolution regarding physician credentialing services with one from Arizona and added a resolve that "the AMA respect and collaborate with those federation units which operate physician credentialing services."
- Combined the OSMA's two resolutions on home care—asking for a study of the industry and more local control of home care agencies—with one from the American Medical Directors Association, resulting in a substitute resolution asking the AMA to work with appropriate agencies to clearly display on home health agency summary reports to physicians an itemized statement of the allowable charges for services rendered by the home health agency since care was initiated; identify and promote more localized Medicare oversight of home care agencies; and promote a study of the status of home care in the U.S.
- Amended an Oklahoma resolution calling for lower CME fees for retired physicians to read: "the AMA (will) encourage all providers of continuing medical education to consider a reduced fee policy for retired physicians."
- Strengthened an Oklahoma resolution asking the major pharmaceutical companies to standardize their requirements for certifying indigent patients for free drug programs. The substitute resolution asked the AMA to urge drug companies, through the Pharmaceutical Research and Manufacturers Association, to accelerate the development of standard and uniform policies and procedures for certifying indigent patients for free drug programs, including the implementation of a process by which an individual patient, once certified, can obtain medications from the pharmacy of choice; encourage pharmaceutical manufacturers to expand their already generous free drug programs for the indigent; and encourage physicians to facilitate the expansion of free drug programs for the indigent by declining to receive noneducational promotional materials from drug manufacturers and by urging that the funds otherwise spent on such materials be redirected to support expanded free drug programs for the indigent.
- Adopted an Oklahoma resolution that asked the AMA to adopt as policy the position that physician services are services, *not* products; and oppose in all appropriate forums the current Internal Revenue Service initiative to define physician services as products.
- Noted that the Oklahoma resolution addressing the payment of medical services for illegal aliens is already existing AMA policy.

> Specialty societies will have proportional representation in a reconfigured AMA House of Delegates.

Physician-assisted suicide rejected.—The AMA House of Delegates reaffirmed current policy and rejected the notion of physician-assisted suicide, requesting that the complete text of the report be distributed to all AMA members; that report appears elsewhere in this issue of the JOURNAL.

Restructuring of the Federation begins.—To better position medicine to deal with the challenges of the next century, the AMA House of Delegates passed a Board of Trustees report that makes sweeping changes in the configuration of the Federation.

The AMA House of Delegates asked the AMA Council on Ethical and Judicial Affairs (CEJA) and the Council on Long Range Planning and Development to draft a "statement of collaborative intent" that respects the autonomy of constituent organizations, but also characterizes the nature of the working relationships that must exist among *all* members of the new Federation if it is to achieve its objectives.

The statement should address such topics as:

- Promoting trust and cooperation throughout the Federation of Medicine.
- Striving to help the Federation of Medicine speak with a unified voice, particularly on critical issues relating to patient care.
- Working cooperatively with other Federation organizations to advance the image of physicians, the medical profession, and the Federation as a whole.
- Supporting, whenever possible, the policies established by the AMA/Federation House of Delegates, and providing prior notice to other Federation organizations when public opposition to the policy positions established by the AMA/Federation House of Delegates is necessary.
- Openly sharing information that can help other Federation organizations succeed, especially information that helps the Federation be responsive to member needs.
- Working with other Federation organizations to minimize duplication of services, increase efficiency in organized medicine, and provide the best possible benefits to members through reduced dues and enhanced services.

HEALTH DEPARTMENT

Hepatitis B Alert!

Oklahoma's hepatitis B protection levels for 1994, 1995, and 1996, as determined by a prospective two-year-old survey, were 0.4%, 12%, and 50% respectively (Fig.1). Although this indicates a dramatic increase from 1994 to 1996, 50% is still well below the 1996 national goal of 70%, especially when one considers that hepatitis B vaccine has been available statewide since 1994.

A separate study conducted by the National Immunization Survey (NIS)[1] from July 1994 to June 1995 indicated Oklahoma was near the bottom for hepatitis B vaccine coverage in Region VI (Table 1). The hepatitis B protection level for two-year-old children in Oklahoma was 34%, compared to the national level of 51%.

As reported in the June 1996 issue of *Pediatrics*,[2] barriers to reaching optimum coverage levels include the following: failure to recognize the public health importance of HBV infection, belief that their patients are not at risk, concern about multiple injections during a single clinic visit, the cost-effectiveness of infant vaccination, the duration of protection among infants not exposed to HBV until later in life, and because vaccine had never been recommended for all infants at birth. Most personnel in hospital nurseries were unfamiliar with the recommendation to immunize infants against hepatitis B before discharge.

With the support of all physicians, Oklahoma will be able to meet and maintain the 1998 goal of 90% protection levels. The foundation for comprehensive coverage with hep-

(continued)

• Working cooperatively with other Federation organizations to achieve better communications among physicians, between physicians and their medical associations, and among the organizations which comprise the Federation of Medicine.

A Federation Coordination Team (FCT), consisting of 20 physicians representative of age, gender, and career stage, will be appointed to clarify roles and achieve active coordination of efforts in the Federation and to establish a process for pursuing collaborative efforts among Federation members. FCT will be a working group whose "success will come from finding logical and rational solutions that are inherently attractive and constitute the basis for 'win-win' changes among Federation organizations."

• Specialty societies will have proportional representation in a reconfigured AMA House of Delegates. Once a year the AMA will send a specialty-representation "ballot" to each AMA member and fourth-year medical student members asking each to identify one specialty society to represent him or her in the AMA/Federation House of Delegates. For the first three years, the number of delegates and alternate delegates allocated to a specialty society will be on the basis of one delegate and one alternate delegate for each 2,000 AMA members or portion thereof who select the particular specialty society on the annual specialty-representation ballot. The fourth year after implementation, specialty society representation will be on the basis of one delegate and one alternate delegate per 1,000 AMA members or portion thereof.

AMA honors Oklahoma County physicians.—The physicians of the Oklahoma County Medical Society were awarded the American Medical Association Medal of Valor during the AMA House of Delegates meeting. The Oklahoma County physicians were honored for their heroic actions in the hours immediately following the bombing of the Murrah Federal Building in Oklahoma City on April 19, 1995.

The AMA Medal of Valor is awarded for courage under extraordinary circumstances in non-wartime situations.

Before accepting the award, Oklahoma County Medical Society President John R. Bozalis, MD, asked all Oklahoma physicians present to join him at the podium. The assembled Oklahoma physicians received a standing ovation from the members of the AMA House of Delegates.

In presenting the award, then–AMA President Lonnie R. Bristow, MD, said: "America's physicians feel a deep sense of pride in the achievements of our colleagues in Oklahoma. Their actions enhanced the sense of professionalism that physicians everywhere know is inherent in their calling to the healing profession."

Louisiana physician to lead AMA.—Daniel "Stormy" Johnson, MD, a Louisiana radiologist, is the new president of the American Medical Association. He succeeds California internist Lonnie R. Bristow, MD.

Percy Wootton, MD, a Richmond, Va., internist and cardiologist, was elected by acclamation as AMA president-elect. He will automatically assume the AMA presidency next June.

Re-elected by acclamation as speaker and vice-speaker, respectively, of the AMA House of Delegates were Richard Corlin, MD, California, and John Knote, MD, Indiana.

Re-elected to three-year terms on the AMA Board of Trustees were Donald T. (Ted) Lewers, MD, Maryland, and Pam Formica, MD, New Jersey.

Newly elected to three-year terms on the AMA Board of Trustees were Donald Palmiasano, MD, Louisiana, and J. Edward Hill, MD, Mississippi.

George Mahood, MD, Pennsylvania, was elected to a one-year term to complete an unexpired term.

Officers of the AMA Board of Trustees are Nancy W. Dickey, MD, Texas, chair; Thomas R. Reardon, MD, Oregon, vice-chair; Randolph D. Smoak, MD, South Carolina, secretary-treasurer.

Dr. Dickey has announced her candidacy for AMA president-elect and currently is unopposed. If elected next June, she would become the first woman to lead the AMA. J

Table 1. Two-Year-Old Children Hepatitis B Vaccine Caverage DHHS Regian Six

State	1998 Goal	1996 Protection Levels
Lauisiana	90%	58% +- 5.6%
Texas	90%	43% +- 3.7%
Arkansas	90%	43% +- 5.8%
Oklahama	90%	34% +- 6.1%
New Mexico	90%	32% +- 5.5%
National	**90%**	**51% +- 1.1%**

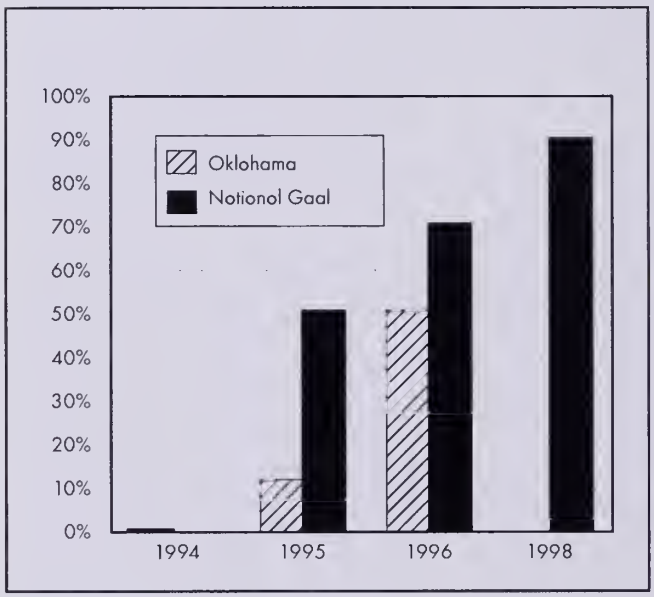

Figure 1. National goals for hepatitis B vaccine coverege far two-year-old children versus Oklahama protection levels.

atitis B vaccine will necessitate that public health and physicians work together to initiate the following practices:

- Provision of hepatitis B vaccine and hepatitis B immune globulin (HBIG) to all infants born to hepatitis B surface antigen (HBsAg) positive mothers identified during pregnancy or at the time of delivery.
- Administration of the first dose of hepatitis B vaccine to all newborns before discharge from the hospital. Hospitals can contact the Immunization Division of Child Health and Guidance Services, Oklahoma State Department of Health at (405) 271-4073 to receive the vaccine free through the Vaccines for Children (VFC) Program for VFC-eligible infants.
- Development of a mechanism that would ensure the HBsAg status is known on all pregnant women presenting for delivery before they are discharged.

Continued screening of maternity patients is recommended to identify neonates requiring HBIG upon delivery. Administering hepatitis B vaccine, without perinatal screening, can result in 5% to 30% of these infants becoming chronic carriers. These infants should receive the second and third doses in a timely manner due to an increased risk of exposure to hepatitis B virus (HBV).

The public health strategy in Oklahoma includes provision of free hepatitis B vaccine to three groups: those covered by the VFC Program, those covered by the Perinatal Hepatitis B Program, and those covered under the Universal Hepatitis B Program. Also, in August 1995, the Advisory Committee on Immunization Practices (ACIP) recommended vaccination of all 11- to 12-year-old children who have not been previously vaccinated. Beginning in the fall of 1997, this age group will be required to have hepatitis B vaccine before entering the seventh grade.

All VFC-eligible children through 18 years of age who also are regarded as high risk can receive the vaccine series at no cost. To qualify for VFC, a child must meet one of the following criteria: Medicaid enrolled, Native American, uninsured, or under-insured, i.e., their health insurance does not cover immunizations.

The *Perinatal Hepatitis B Program* provides HBsAg screening to all pregnant women presenting at a public health clinic for prenatal services. If the HBsAg test is positive, they are enrolled in a computerized tracking system. HBIG and the vaccine series then are provided free to the newborn beginning at birth (before discharge from the hospital). Vaccine is also provided free to all susceptible household and sexual contacts of HBsAg positive prenatal patients.

The *Universal Hepatitis B Program* provides vaccine to all VFC-eligible children born after November 22, 1991, through the VFC Program. Targeting only those thought to be at high risk is not an effective means of preventing hep-

atitis B transmission. About 30% of new cases have no identifiable risk source. The most effective way to eliminate hepatitis B in children is through universal immunization of all infants.

Modern medicine can take pride in the elimination of smallpox, the elimination of polio in the Americas, and the drastic reduction of other vaccine-preventable diseases. By working together and employing the knowledge and methods gained in accomplishing the above, similar results can be achieved with hepatitis B.

For further information contact Edd Rhoades, MD, MPH, Chief of Child Health and Guidance Service, or Phyllis Brown, RN, Director of the Immunization Division at (405) 271-4073.

References

1. Centers for Disease Control National Immunization Survey on hepatitis B. *MMWR* June 21, 1996.
2. Woodruff BA, Stevenson J, Yusuf H, Kwong S, Todoroff K, Hadler J, Conneticut Hepatitis B Project Group, Hoyt M, Mahoney F. Progress toward integrating hepatitis B vaccine into routine infant immunization schedules in the United States, 1991 through 1994. *Pediatrics*. 1996;97:798-803.

OSDH receives grant to assist pregnant women with HIV, AIDS

The Ryan White CARE (Comprehensive AIDS Resources Emergency) Act was originally passed by Congress on August 18, 1990. The act, which provides support for health and social services for individuals living with HIV disease, represents the largest authorization of federal funds specifically designated for that purpose. Oklahoma, considered a lower incidence state for HIV, is eligible for these funds under Title II of the act. On May 20, 1996, President Clinton signed the reauthorization of the CARE Act, which contains an amendment requiring states to address and implement systems of voluntary HIV testing for pregnant women.

The Oklahoma State Department of Health is the grantee of Title II funds for the state, and this year will receive approximately $1.65 million through Ryan White. These dollars are subcontracted to provide HIV prescription drug assistance to low-income persons with no other pay source, nurse home visits for skilled or personal care, and community-based services such as case management and medical transportation assistance for a continuum of care through HIV service consortia. To ensure the state's eligibility for these funds, which are vital to individuals living with HIV or AIDS, the Oklahoma State Department of Health has already begun to address the CARE Act amendment through a more systematic process of offering HIV testing to women accessing prenatal care.

The amendment to the CARE Act resulted from a Senate-House compromise that shifts focus away from mandatory HIV testing and requires all states to adopt the Centers for Disease Control and Prevention (CDC) guidelines for counseling and voluntary testing of pregnant women. The amendment contains the following provisions with target dates for completion of the required action:

- September 1996—CDC must develop and implement a reporting system for states to gather data on AIDS cases resulting from perinatal transmission and determine the causes of such transmission.
- May 1998—The Secretary of Health and Human Services (HHS) is directed to contract with the Institute of Medicine to evaluate the extent to which state efforts have been effective in reducing perinatal transmission of HIV and to analyze barriers to further reduction of such transmission. A report of these findings is to be provided to Congress along with recommendations of the Institute.
- September 1998—The Secretary of HHS, in consultation with states and experts, will determine if mandatory HIV testing of all infants born in the U.S. whose mothers have not undergone prenatal testing has become routine practice. If the secretary determines that such mandatory testing has become routine practice, an individual state will have eighteen months to demonstrate compliance in one of the three following areas to continue Title II funding:
- March 2000—(1) A state must show a 50% reduction (or comparable measure for states with less than 10 cases) in the rate of new AIDS cases resulting from perinatal transmission by comparing most recent data to 1993 figures;

(2) At a minimum, 95% of women who have received at least two prenatal visits prior to 34 weeks gestation have been tested for HIV; (3) A program for mandatory testing of all newborns whose mothers have not undergone prenatal HIV testing.

Any state that does implement mandatory newborn testing must also prohibit health insurance companies from discontinuing coverage of a person based on the fact that the individual is HIV-infected or has been tested for HIV.

The Oklahoma State Department of Health, in accordance with CDC guidelines, had already begun the implementation of counseling and voluntary HIV testing for pregnant women and will be working closely with the private physicians to coordinate statewide efforts. However testing is only an initial step in reducing maternal-infant transmission of HIV and should not be construed as the simple answer to a complex situation. Many women at increased risk of HIV infection do not access prenatal care, and according to an article in June 20, 1996, issue of *The New England Journal of Medicine*, New York and North Carolina both report 25% of HIV-infected pregnant women declined to accept zidovudine therapy. Testing can provide an individual with knowledge of HIV status, but education, counseling, and targeted prevention efforts are key components of a comprehensive and effective intervention effort.

For additional information, call the HIV/STD Service of the Oklahoma State Department of Health at (405) 271-4636.

LETTERS

Zuhdi relates history of heart-lung machine

To the Editor: The profile of the life of Dr. Allen Greer in the March 1996 issue of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION is deserved. Author Richard Green, however, digressed into material not germane to Dr. Greer's story. This digression interpenetrates the core of my scientific life and occupation. I cannot permit this recitation to stand, particularly under the cloak of a scientific journal as if to give it credence. I will limit this account to these passages and composition from page 104 to the top of the middle column on page 105. Furthermore, this account is not meant to be a narrative of my long-standing life with the heart-lung machine, the physiology of total body perfusion, tissue metabolism, hypothermia, and intentional hemodilution.

The Heart-Lung Machine

The only heart-lung machine used *in the period of time referenced in this profile* was patented by Drs. Richard DeWall and C. Walton Lillehei of the University of Minnesota and was already in use around the world. *Credit as clearly indicated in my scientific papers is theirs.* My selection of this heart-lung machine over others I was familiar with was deliberate because it could be easily scaled up or down depending on protocols and its parts easily dissected for the continuation of my physiologic investigations of perfusion. My detailed familiarity with this specific heart-lung machine stems from my fellowship in the open heart surgery program at the University of Minnesota in the latter part of 1956 and also from being a participant as its trainee in the experimental and early clinical work of its variant bubble oxygenator (the plastic sheet oxygenator) and in detailed physiological studies relating to flow rate and tissue metabolism.

The Heart. Precisely, the one and *only pump* ("heart") used in all our work, as was by Lillehei and DeWall, was a finger pump manufactured by, commercially available at, and purchased from Sigmamotor, Inc., Middletown, New York. *This is meticulously listed and referenced in my publications.*

The Lung. The one and *only oxygenator with its helical reservoir* ("lung") used in all our work is per Lillehei and DeWall and again *all credit in my scientific papers is theirs.* It was purchased with other components from: Phelan, Minneapolis, Minnesota; Travenol Laboratories, Morton Grove, Illinois; Abbott Laboratories, Chicago, Illinois; and American Optical Company, Chelsea, Massachusetts. All these companies and others were purveyors of the ("heart") and ("lung") used experimentally and clinically and were *meticulously listed and referenced in my publications.*

The Heat Exchange Coil

The Solution. Heat exchangers available to me during the referenced time and one such used by Dr. Ivan Brown of Duke University were volume-expanding which did not permit to materialize my specific determinations for safe total body perfusion.

The issue of the heat exchanger was timely solved by an innovative volume-reducing heat exchanger, an idea proposed by my then wife Lamya—*again she is exactly referenced in my scientific publications.* The timeless helix came again to the rescue as we both thought it may be the solution I was looking for and it was. For that entire night, hopeful that a solution to body perfusion might be found, the double helix became my *idea fixe.*

And Then. In the morning, I rushed to KimRay, Inc., on the recommendation of Allen Greer because of his friendship with its principal. One of its machinists shaped the stainless steel tube of the size I intuitively determined, my intuition governed through my years of experience in this field taking into account the two factors of heat exchange and the necessary capacity of the outer helical reservoir I calculated for a safe perfusion. That size of tubing, when inserted into the helix of the oxygenator, proved to be correct in the research laboratory I headed on the fourth floor, and not the first floor, of 13th Street Mercy Hospital in downtown Oklahoma City. The double helical reservoir became a reality. Designs for additional heat exchange were unnecessary and were eliminated.

The Assembly

Per my directions, all these components were physically assembled by myself and *Mr. Lee Pound,* the engineer at the 13th Street Mercy Hospital, on a platform beside two sanitized garbage cans: one to contain cooled water and the other heated water, the water to be delivered to the stainless steel helix at the desired temperature through a commercial thermomixer. This assembled DeWall-Lillehei heart-lung machine and the heat exchange device were first studied and verified experimentally in my laboratory at Mercy Hospital and then used successfully on our first 53 patients. *All the above facts and the name of Mr. Lee Pound are clearly cited in my review article.*

Later we requested as a natural step and spurred by others, as the author of this article in the March 1996 JOURNAL states, the consolidation of the thirty-gallon garbage cans into a single contiguous unit, "an aesthetically pleasing set of reservoirs," to go along with the already aesthetically pleasing heart-lung machine; the presentation of the heart-lung machine did not change at any time. The heat exchange unit and this set of containers were manufactured by KimRay, Inc.—*again properly referenced in my specific papers*—and, I believe, for a time warehoused, distributed and sold by KimRay along with other parts of the heart-lung machine, duplicated or purchased, from the companies listed above. An amusing historical anecdote is that at my request three tanks were originally built—one for cooled water, one for heated water and a middle tank for water at a desired maintenance temperature. The middle tank was never used as a water container since by the time it was swiftly made, I had already determined it was not needed. It ended up as a sanitary garbage can for OR wraps, nurses' purses, and tissue boxes. During this period my pace was fast. The different pieces of the puzzle of total body perfusion were falling in place. I have never observed

at any time any KimRay personnel, including its principal, in my laboratory where the arduous work of perfusion in both animal and laboratory models were performed. My biochemical determinations, radioactive assays, vascular resistance verifications, oxygen transfers, and hemolysis occupied the entire force of my laboratory.

Conclusions

The prose of the writer from his assembled information created a scenario which simply did not exist. The "furor" was never directed towards the heart-lung machine we used or at any person. The anecdote re Cooley cited by Allen Greer is placed in a context that creates a distorted image; the anecdote was regarding the principles of "intentional hemodilution" and perfusion and should have been placed in the middle column of page 105 following the word "hemodilution." Several other types of heart-lung machines as well as other heat exchangers followed and were and still are successfully used. The objections were medical in nature and physiologic in entity and address "intentional hemodilution," as it is against all the conditioned teachings of physicians.

Mr. Green errs again when he writes that my papers "don't usually delineate individual roles or merit." Nothing could be further from the truth, the truth documented precisely in all my scientific papers. Mr. Green's source tried in 1960 to have me remove pointed indications of propriety in my publications and I refused. Dr. Allen Greer was present. That is when I removed myself from any such association, in addition to having evolved to new areas and went on with my other projects that followed—the artificial heart with engineer Captain Clark Ritchie, clinical stabilized porcine aortic valves with scientist Warren Hancock, and other projects.

I am not aware, and I should be, as Mr. Green's source claims, of any of "his original designs for gas and oil field work dating back to 1939" that were adapted to the heart-lung machine. This taints not only the lifework of all participants, but also the work of many others whose steps I gratefully acknowledge. *Finally, the story of what has been done in Oklahoma City is extremely well known and the honors have abounded.* That story is not well served by superficially researched and fragmentary accounts from those who are peripheral to its narrative. Allen Greer's statement in the brochure for his Oklahoma Hall of Fame induction is self-evident:

> Greer has been instrumental in the development of modern cardiac surgery in Oklahoma. He recognized Nazih Zuhdi's abilities and provided the environment for him to do his research and original developments, and he assisted him in the following advancements: development of a technologically advanced heart-lung machine, which made open heart surgery on a mass scale practical for the first time; experimental artificial heart work; the first coronary artery bypass surgery in Oklahoma; and the first heart transplant, the first heart-lung transplant, and the first unilateral lung transplant in Oklahoma. In addition to his work as a thoracic surgeon, he has sponsored or assisted numerous students through medical school and has been an active participant in the state's cattle industry, where he has worked to improve breeding techniques in Angus cattle.

—Nazih Zuhdi, MD
Oklahoma City

In Memoriam

1995

Malcolm Mollison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Ralph Richard Markland, MD ..... February 10
William Jackson Dowling, MD February 13
Theodore Sherman Williams, MD ..... February 22
John Walker Johnson, Jr., MD ..... March 13
Joseph Jules Maril, MD ..... March 16
Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Hobart Curtis Sanders, MD ..... March 22
Charles Eugene Green, MD ..... March 29
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3
Marlene Marie Normand, MD ..... May 6
Henry Hubert Modrak, MD ..... May 17
James Polk Luton, MD ..... May 21
John Hartwell Dunn, MD ..... May 27
Logan Albert Spann, MD ..... June 7
Coye Willard McClure, MD ..... June 19
James Jackson Gable, Jr., MD ..... July 8
Thomas McNeil Story, MD ..... July 9
Herschel Jerome Rubin, MD ..... July 12
Robert Douglas Anspaugh, MD ..... July 21
Robert Moran Herlihy, MD ..... July 24

Deaths

Robert Douglas Anspaugh, MD
1914 - 1996

Robert D. Anspaugh, MD, A native of Gridley, Kans., died July 21, 1996, in Oklahoma City. Dr. Gridley earned his medical degree at the University of Tennessee, Memphis, in 1942, after completing his undergraduate work at the University of Oklahoma. During the Korean conflict he served as a captain in the U.S. Army at Fort Campbell, Ky., from 1951 to 1953. Dr. Anspaugh established his private obstetrics and gynecology practice in Oklahoma City in 1947.

William Jackson Dowling, MD
1922 - 1996

Retired Bristow surgeon William J. Dowling, MD, and OSMA Life Member, died February 13, 1996. A 1946 graduate of the University of Oklahoma Medical School, he completed his internship at University Hospital, Oklahoma City, and surgical residency at Veterans Administration Hospital, Oklahoma City. Dr. Dr. Dowling was on active duty with the U.S. Navy for four years during World War II. Dowling was born in Ardmore. He was a Life Member of the OSMA living in Lake Kiowa, Tex.

James Jackson Gable, Jr., MD
1918 - 1996

James J. Gable, Jr., MD, a native of Oklahoma City, died July 8, 1996. He earned his medical degree from the University of Oklahoma School of Medicine in 1942. He served in World War II as a battalion surgeon with the 90th Infantry Division, and years later was recalled to duty during the Korean conflict, where he served with the 45th Division, attaining the rank of major. An internist, he joined the Oklahoma City Clinic in 1948 and practiced there until his retirement in 1980. Dr. Gable was also a professor of medicine at his alma mater.

Charles Eugene Green, MD
1911 - 1996

OSMA Life Member Charles E. Green, MD, Lawton, died March 29, 1996. He was born in Ada and earned his medical degree at Indiana University School of Medicine in 1942. During World War II he served on active duty with the U.S. Army Medical Corps for 33 months, 29 of which were overseas; he earned the rank of major before leaving the service. In 1962 he was vice-president of the Oklahoma State Medical Association. Dr. Green served on the medical ship *Hope* in January 1964 at Guayaquil, Ecuador, and just a few years later the pediatrician found himself in war-torn Vietnam as part of a team of observation physicians. In 1989 the association presented him with the A.H. Robins Award for Community Service, the same year he was awarded Life Membership.

Robert Moran Herlihy, MD
1915 - 1996

Cleveland, Ohio, native Robert M. Herlihy, MD, a retired urologist, died July 24, 1996, in Oklahoma City. A Life Member of the OSMA, Dr. Herlihy was graduated from St. Louis University School of Medicine in 1943 and served in the U.S. Army Medical Corps from 1945 to 1948, attaining the rank of captain. In 1950, after completing a residency in Detroit, he moved to Enid to establish a private medical practice. Dr. Herlihy was a past president of the Oklahoma State Urology Society.

Ralph Richard Markland, MD
1931 - 1996

Otolaryngologist Ralph R. Markland, MD, Oklahoma City, died February 10, 1996. The Oklahoma City native was a 1956 graduate of the University of Oklahoma College of Medicine and completed an internship in San Antonio the following year. From 1957 to 1959 he was on active duty with the U.S. Army, establishing a private practice upon his return to Oklahoma City.

Coye Willard McClure, MD
1914 - 1996

Hollis native Coye W. McClure, MD, retired ophthalmologist and OSMA Life Member, died June 19, 1996, in Oklahoma City. Dr. McClure earned his medical degree from the University of Oklahoma Medical School in 1940. An internship and residency in ophthalmology at University Hospital in Oklahoma city followed. In 1944, during World War II, Dr. McClure joined the 119th Evacuation Hospital in the European Theater, returning to Oklahoma City in 1946 to establish his medical practice. He was also a member of the faculty at the OU Medical School. He was a past president of the Oklahoma Clinical Society and Oklahoma State Society of Ophthalmologists, a member of the governing board of the American College of Surgeons, and a trustee of the Oklahoma Eye Foundation, Presbyterian Hospital, and McGee Eye Institute.

Herschel Jerome Rubin, MD
1912 - 1996

Herschel J. Rubin, MD, longtime Tulsa pediatrician, died in that city July 12, 1996. Dr. Rubin was born in Wheeling, W.V., and graduated from Hahnemann Medical College in

Philadelphia in 1937. In 1946 he moved to Tulsa and set up a private pediatrics practice. He served as a clinical professor of pediatrics at Oral Roberts University Medical School and as an associate clinical professor of pediatrics at the University of Oklahoma. Dr. Rubin served on active duty with the U.S. Army during World War II and held the rank of major at the time of his discharge.

Thomas McNeil Story, MD
1929 - 1996

Tulsa general surgeon Thomas M. Story, MD, died July 9, 1996. Dr. Story was born in Ada and earned his medical degree from the University of Oklahoma Medical School, Oklahoma City, in 1959. He completed his postgraduate studies at St. John Medical Center in Tulsa. He practiced family medicine and general surgery in Sand Springs and in Sapulpa, as well as in Okemah and Henryetta. J

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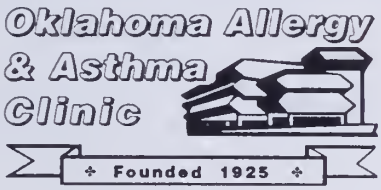

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■ **PLICO, the Physicians Liability Insurance Company,** has a new telephone number. Doctors and their office staffs should note that the new number is 405-290-5600.

■ **The June issue of *Tulsa Medicine* recognized a number** of Tulsa County doctors for their volunteer work at area clinics. These physicians are to be commended for their community service.

Project Get Together: Drs. Janis Finer, William Fitter, Chris Gifford, David Griffiths, Diane Heaton, David Hurewitz, Jim Johnson, Jim King, Lance King, John Knippers, Martin LeBeck, Scott Mays, David Minor, and William Zollinger.

Neighbor for Neighbor: Drs. Vincent Barranco, Mike Bartlett, Bruce Bennett, Glenn Berkenbile, Lauri Blesch, Zeb Brister, Duane Brothers, Kelley Burst-Singer, Rick Cohen, Tracie Collins, David Confer, Tim Dennehy, Steve Dill, Kevin Donovan, Rick Doss, Gwen Gibson, Yvonne Goetsch, Andrew Gordon, Vondale Graham, David Griffiths, Charles Harmon, Pat Hughes, William Jennings, Julia Karlak, Jay Lohrey, Robert Mahaffey, David Martin, John Minielly, Greg Mitchell, Ed Moroney, John Mowry, Bill O'Meilia, Alistair Paton, Donald Pfeifer, Lee Schoeffler, Richard Shildt, Bat Shunatona, Kevin Steichen, John Watson, Mark Weiss, Greg Williams, Jim Wolfe, William Yarborough, John Yazdi, and Richard Young.

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■ **The JOURNAL continues to seek good cover photographs** from its readers. When going through your Oklahoma vacation shots, remember that one of them might appear on an upcoming JOURNAL cover. Send *copies* of your best color photos or slides of scenic Oklahoma (or medically related topics) to the JOURNAL office at OSMA headquarters, 601 West I-44 Service Road, Oklahoma City, OK 73118. Photos will be kept on file for consideration on future covers and cannot be returned. Remember, vertical formats work best.

■ **Despite what a patient says about taking his or her** medication at the right time in the proper dose, a study in the May *Archives of Family Medicine* shows most patients are probably not following instructions. Using paid volunteers to take a single daily dose of aspirin, researchers found that even among this group of highly motivated, educated people, compliance was only at 35%.

■ **The American College of Physicians (ACP) has published** the third edition of its ethics manual *Ethical Choices: Case Studies for Medical Practice.* The publication uses real-life situations to show how the principles of medical ethics apply to physicians' daily practices and patients' health, welfare, and rights. Although some of the cases address such controversial issues as physician-assisted suicide, the majority of cases concentrate on everyday issues physicians are likely to encounter, such as fee for service vs. managed care: financial incentives and physician decision-making; physician/patient sexual relationships; disclosure of errors and threat of malpractice; patient prejudice and referrals; and disagreements between residents and attendings. The book is available from the ACP by calling ACP Customer Service, 1-800-523-1546, ext. 2600.

■ **Among the latest findings on group practice in America** are those in the 1996 edition of *Medical Groups in the US: A Survey of Practice Characteristics,* published in Chicago by the American Medical Association. The study reveals that in this day of managed care, just over a third (approximately 34%) of U.S. physicians are now members of group practices, and that last year those practices numbered 19,787, an increase of 361% since 1965. Multi-specialty groups continue to be the largest. And 95% of medical groups are physician owned, while 2.5% are hospital owned. The monograph, the eighth in a series on group practices, can be ordered by calling 1-800-621-8335.

■ **People with the eye disease retinitis pigmentosa receive** no benefit from a procedure being performed in Cuba which combines surgery with electric stimulation and ozonated blood, according to a study in the May *Archives of Ophthalmology.* In fact, the study shows the procedure may actually worsen the course of the disease.

■ **A study in the May *Archives of Family Medicine* shows** that despite previous research to the contrary, physicians do not order more tests on patients thought to be of a higher socioeconomic status. Intensity of follow-up, however, was greater when physicians believed the patient was in a more prominent profession or was of higher socioeconomic status.

■ **Over one hundred Tulsa area physicians recently par**ticipated in the first golf tournament sponsored jointly by the Tulsa County Medical Society and the Tulsa Osteopathic Medical Society. The tournament was held at Forest Ridge. Winners, as reported by the August *Tulsa Medicine*, were Best Team Score: James Flynn, MD, Dan Nader, DO, Bob Parmele, and Richie Polishuk; Longest Putt: Kevin Dukes, MD; Closest to the Hole: Jim Johnson, MD; Longest Drive: Karl Hoskison, MD.

■ **FCC Chair Reed E. Hundt has invited George H. Kamp,** MD, Tulsa, to serve as a member of the Telecommunications and Healthcare Advisory Committee of the Federal Communications Commission. The committee will help guide the commission in developing policies governing the communications environment of the future.

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SEPTEMBER 1996 VOL. 89, NO. 9

EDITORIAL

A Spot of Tea 311
R.V. McINTYRE, KINGFISHER

PRESIDENT'S PAGE

Political Participation 313
D.L. HARPER, TULSA

SCIENTIFIC

Fractures and Nonunions of the Scaphoid 315
G.M. RAYAN, OKLAHOMA CITY

The Scimitar Syndrome: Demonstration with Magnetic Resonance Imaging 324
L. RAMSEYER, W. MANSFIELD, W. SIMON; ENID

SPECIAL

Ipecac, Indian Turnip, and Sassafras: A Sampling of American Indian Medicine 326
JOE D. HAINES, JR., MD, SKIATOOK

Pramsgram: Initiation of Prenatal Care Among Women Having a Live Birth in Oklahoma 328
MATERNAL & CHILD HEALTH SERVICE, OKLAHOMA STATE DEPARTMENT OF HEALTH

NEWS

PLICO issues videotaping guidelines for hospitals and physicians, 333... AMA says number of women physicians in U.S. up 425% since 1970, 333

DEPARTMENTS

Health Department, 334... Deaths, 335... In Memoriam, 335... Classifieds, 336... Instructions for Authors, 342... Alliance, 343... The Last Word, 344

ABOUT THE COVER

Robert M. Smith, MD, Oklahoma City, captured this sunrise along the North Canadian River near Hiwasee Road just one year ago.

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EDITORIAL

A Spot of Tea

The galloping advances of medical sciences during the past hundred years have markedly improved the morbidity status of mankind. Yet the very dramatic nature of these advances also highlights the fact that human flesh remains as weak and vulnerable as ever. Also, the human emotional constitution remains as it was when the Pilgrims landed, when Augustus Caesar reigned, and when the caveman chipped the first flint knife. Human emotions do not evolve appreciably.

One of the constants of human emotionality is the ambivalent nature of the patient's relationship to the physician (any physician). While patients love the physician for caring and for the relief of pain and anxiety, they simultaneously hate the physician as a symbol of sickness and for controlling and dominating. Patients' expression of the negative aspect of this ambivalence may take many forms of covert behavior, depending on the fashion of the day.

With the many feasible treatments that are now possible for malignant and degenerative diseases, the physician expects quackery to wither and disappear. But the patients' will to believe in a magic cure that is independent of the physician is nourished by this negative ambivalence, and the charlatan continues to flourish, even in an era of near-miraculous medical treatments.

Today, some who seek to exploit patients talk about "alternative medicine" and "health foods" and offer to prevent—rather than treat—the malignant and degenerative diseases. With some rational vitamin and dietary supplementation promotion, they extol the use of exotic "nutrients" supposed to contain undiscovered vitamins and miraculous preventive agents. "Natural" remedies, "herbal teas," and cryptic "nutritional factors" are now the stuff of a burgeoning health food industry that aims its promotions at very young and very old adults.

These profitable operations exploit a hiatus in our national food and drug statutes that exempts ill-defined "food products" and "folk medicine" from the stringencies of the federal regulations that control the pharmaceutical industry.

While various roots, herbs, and plant oils have been used in folk medicine for centuries, we now have a general population that is largely unaware that many of the herbal "remedies" of folk medicine were based on empiric observations of the toxic effects of those plant products.

We need to remind ourselves and our patients that many plants produce potent chemicals for purposes of self-defense. In the botanical struggle against insect and mammalian predators, noxious and poisonous chemicals give plant species an evolutionary advantage in killing insects and repelling plant-eating animals. These noxious elements may well be poisonous to us humans as well as to the predators of the plants.

Socrates was executed with an "herbal tea" of hemlock. Oil of pennyroyal is an abortifacient, but the pulegone in it may kill the mother also. Strychnine, a most violent poison, is a "natural" plant product.

We physicians should be educational to our populace and patients and teach that neither "herbal teas" nor exotic nutrients contain any magic, but many "herbal teas" do contain organic poisons.

Ray V. McIntyre, M.D.

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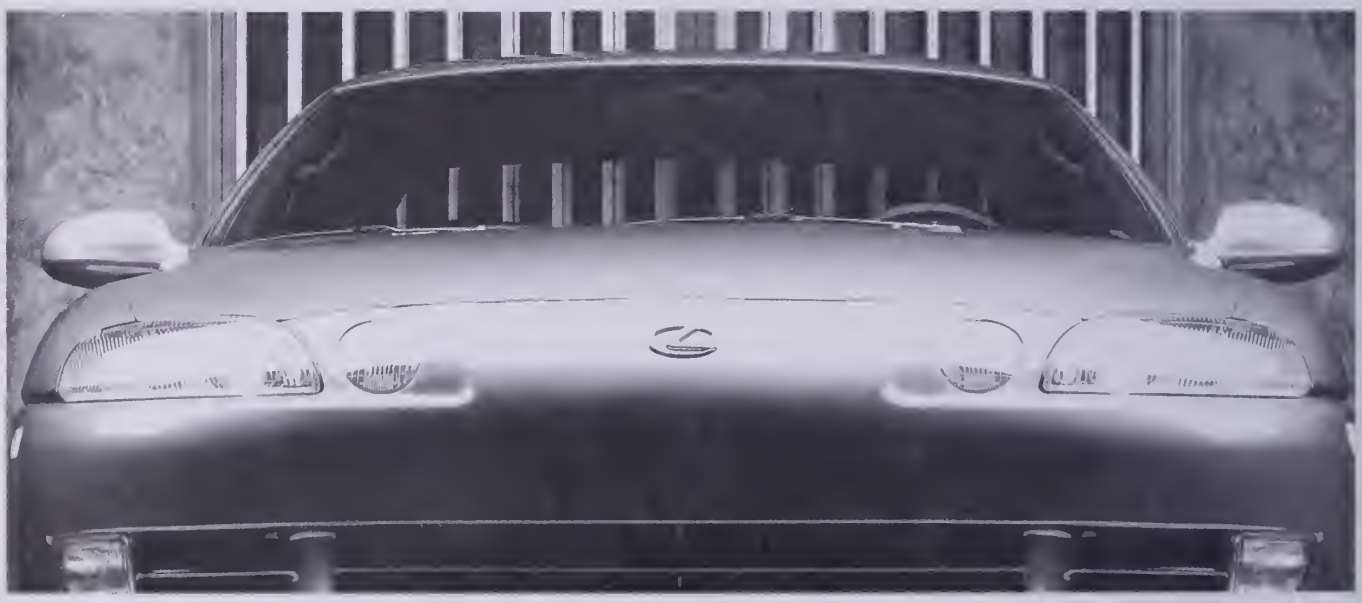

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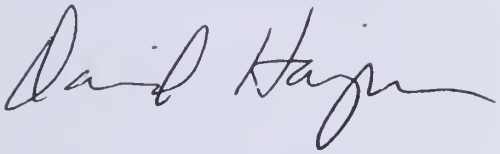
Political Participation

Last month I mentioned the importance of one-on-one grass roots participation—forming a relationship with your senator and representative so you will have access to them and have a chance to influence the legislative process. It is also very important to support organized medicine and the agenda for maintaining and improving quality healthcare by supporting OMPAC and AMPAC and other organized medical political entities.

OMPAC is deserving of our support. It has a new chairman, new and better ways of tracking voting records, and a new approach concentrating on bolstering candidates who have been and will be supportive of medicine and quality healthcare legislation. Instead of contributing to many candidates in the hope of hitting a winner, OMPAC will concentrate on key legislative members and those who support a good healthcare agenda. We should all consider a $100-200 contribution to OMPAC. It is a bargain investment in influencing the future of healthcare in Oklahoma.

On a state level, our Council on State Legislation under the outstanding leadership of Dr. Ed Brandt has already started work planning our legislative agenda and tracking ongoing legislation. We have contracted with two new lobbyists, Lynn White and Vickie Rankin, and are very pleased with their ideas and initial activities. We plan to be more pro-active this year rather than reactive at the last minute. On a national level, our Council on Governmental Activities led by Dr. Richard Boatsman has been instrumental in keeping very good contact and relations with our National Congressional Delegation, a delegation that on the whole has been supportive of medicine.

Make it your goal to participate in this year's election process and maintain your interest all year long. It has been said before and is well worth remembering—politics is not a spectator sport but a participatory one.



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AIR FORCE

Fractures and Nonunions of the Scaphoid

Ghazi M. Rayan, MD

Fractures of the scaphoid are the mast camman af all fractures of the carpal bones. Scaphoid collapse and angular deformity may develap after fractures. Scaphaid nanunion often camplicates scaphaid fractures especially if the diagnosis is missed initially, and adequate timely treatment is nat pravided. Displaced unstable fractures also have a tendency ta develop nonunian. The tenuaus vascular anatomy of the scaphaid, the inherent biomechanical instability af scaphaid fractures, and the difficulty of radiagraphic diagnasis are the culprits of nonunion. Established scaphoid nonunion is a challenging and difficult prablem ta treat and more so is the treatment of failed nanunion after grafting. New methods of diagnosis and treatment of scaphoid injuries are constantly evolving.[29] One common method af treating scaphoid nonunion with angular deformity is length restaratian using a wedge bane graft and Herbert screw fixatian thraugh a palmar approach. Early diagnasis and attention to details of surgical technique are necessary for successful treatment outcome. The purpose of this repart is to review the basic science, diagnosis, and treatment of scaphoid fractures and nonunians.

Relevant Anatomy

The scaphoid spans the proximal and distal carpal rows, but it is considered one of the proximal carpal row bones. The majority of the scaphoid surface is covered with articular cartilage. There are five articulations: a proximal convex surface articulates with the radius, the ulnar concave surface articulates with the capitate, the ulnar border articulates with the lunate, and the distal border articulates with the trapezium and trapezoid. The scaphoid has a proximal pole, a waist which is the mechanical axis of rotation, a distal pole, and a tuberosity. The scaphoid has several ligamentous attachments: the scapholunate interosseous ligament, scaphotrapezial trapezoid ligament, radial collateral ligament, dorsal radioscapholunotriquetral ligament, and palmar ligaments. The palmar ligaments include the radioscapholunate, the radiocapitate ligament which forms an axis at the waist of the scaphoid allowing rotation, and the arcuate (capitoscaphoid) ligament.

Studies of dried scaphoids showed that in approximately 30% of specimens, vascular foramina were either lacking or only a single foramen was present.[50] In a microangiographic study, three scaphoid vessel systems were identified: lateral-volar, dorsal, and distal groups of vessels.[63] Gelberman and Menon[28] used injection and clearing technique to study the scaphoid vascularity and observed the following:

- Most scaphoid blood supply is via the radial artery. The proximal 70-80% of the bone receives blood supply from vessels entering the dorsal ridge. The tuberosity and distal 20-30% of the supply are by volar branches of the radial artery.
- There is no significant intraosseous anastomosis between dorsal and volar branches.

The scaphoid plays an important role in wrist kinematics.

From the University Of Oklahoma Health Sciences Center and Baptist Medical Center, Oklahoma City, Oklahoma.

Direct correspondence to Ghazi M. Rayan, MD, Physicians Building D, 3366 Northwest Expressway, #700, Oklahoma City, OK 73112.

• The vascularity of the proximal pole would be traumatized by a dorsal operative approach. These studies explain the high incidence of avascular necrosis of the proximal pole following scaphoid fractures and support the use of the palmar operative approach.

Scaphoid Biomechanics

The scaphoid plays an important role in wrist kinematics. Destot,[20] in the early 1900s, observed the "bell-like" movement of the scaphoid during normal wrist motion. Lincheid et al[42] described two patterns of carpal instability, dorsal intercalary segment instability (DISI) and volar intercalary segment instability (VISI). Fisk[25] described the associated ligament injury with scaphoid fractures and its importance in the outcome of treatment. He also described the tendency for the scaphoid to acquire the "horizontal" position following fractures and ligament injuries. He introduced the term "humpback deformity" to describe the deformity which develops following scaphoid nonunion with subsequent degenerative arthritis.

The classic mechanism of injury is a fall on the outstretched hand.

Webber and Chao[73] produced experimentally scaphoid waist fractures in cadavers and found that the fracture occurred when the wrist was dorsiflexed at least 95°. The palmar capsular structures were lax when the fracture occurred and the proximal pole was in a vise between the radius and capitate. The radioscaphoid compression loads were four times greater than the force applied, and the radioscaphoid contact is the sole transmitter of compressive forces caused by bending in a dorsal and radial direction. Webber[72] recognized that scaphoid fractures associated with ligament injury can lead to collapse and instability patterns.

Smith et al[59] found that the proximal and distal segments of the scaphoid move independently after osteotomy. The distal segment assumed a relatively flexed stance and displayed an increase in motion. The proximal scaphoid and the lunate assumed an extended stance and displayed less motion after osteotomy. These changes, they proposed, are expected to complicate fracture healing and cause nonunion. They concluded that the scaphoid serves an important role in maintaining normal alignment of the carpal bones and normal wrist motion. Nakamura et al[48] in a three-dimensional computed tomography study described two patterns of scaphoid distal fragment displacement in relation to the proximal pole, volar and dorsal. Humpback deformity was present in both types and axial rotation was present in volar type. Burgess[9] studied the effects of experimentally produced scaphoid malunion on wrist motion and found loss of wrist extension to be proportionate to the angular deformity.

The load-bearing characteristics of an intact scaphoid was studied by Viegas et al,[69] after proximal pole osteotomy and proximal pole resection. They found the contact area borne through the scaphoid fossa was essentially the same in all cases, but there was an increase in and concentration of load distribution through the distal fragment which coincides with areas observed clinically to develop arthritic changes after scaphoid nonunion.

Nakamma et al[49] found in patients with scaphoid nonunion and DISI pattern that tears of the scapholunate ligament are uncommon. They suggested that the DISI collapse pattern is due to the anterior bony defect.

Classification

Scaphoid fractures are classified based on fracture orientation into transverse, oblique, and vertical. Based on the anatomical location, the fracture may involve the proximal pole (15-20%), waist (70-75%), distal pole, tuberosity, or dorsal ridge.[14] Prosser et al[52] classified distal intraarticular scaphoid fractures into three types and found the predominant patterns were avulsion fragment from the radiovolar tip of the tuberosity (Type I) and the impaction fracture of the radial half of the articular surface (Type IIA).

Webber[72] classified scaphoid waist fractures into nondisplaced, angulated, and displaced and found a relationship between fracture type and the rate and duration of healing. The nondisplaced fracture healing rate was 100%; for angulated fractures it was 67% and for displaced fractures it was 45%. Nondisplaced fractures healed faster and nonunion was more common in displaced fractures. Cooney et al[18] classified scaphoid fractures into stable and unstable. They defined unstable fracture as one with radiographic evidence of displacement greater than 1 mm, the presence of DISI pattern or both. Scaphoid fractures also were classified by Herbert and Fischer[33] according to their radiographic appearance into four types: stable, unstable, delayed union, and nonunion.

Patient Evaluation

The classic mechanism of injury is a fall on the outstretched hand. The patient presents with wrist pain provoked by active motion and associated tenderness in the snuff box and the dorsal aspect of the wrist. In established nonunion, the pain is provoked by loading the wrist in extension and later caused by arthritis.

Fractures of the scaphoid may be isolated or associated with other injuries such as distal radius fractures,[65] scaphoid-capitate syndrome,[45] and

transcaphoid perilunate dislocation. Scaphoid stress fractures were reported in athletes.[32]

Kessler et al[36] pointed out the problem of missing a scaphoid fracture radiographically when the fracture line is not parallel to x-ray direction. Projection of the tube at various angles makes fracture visualization possible. Daffner et al[19] recommended angling the x-ray tube 30° towards the elbow which will elongate the view of the scaphoid and improve visualization of the fracture. A semi-pronated view was found to be useful in assessing fractures of the distal pole and scapho-trapezial trapezoid joint.[52] Dorsal ridge avulsion fractures of the scaphoid at the distal end of the radial facet are best seen on a 45° anteroposterior oblique supination view of the scaphoid.[41] When scaphoid fractures are suspected, five views should be obtained: Posteroanterior, true lateral, elongation, 45° supination, and 45° pronation from neutral forearm position.

Stordahl et al[62] noticed that it took some scaphoid fractures two to six weeks to become visible radiographically but all showed positive bone scan results. They suggested that bone scan is a valuable diagnostic tool in assessing wrist trauma, especially in the early phase of injury when the radiographic findings are normal.

Sanders[57] recommended computerized axial tomography to be done in the true longitudinal axis of the scaphoid, which will confirm the presence of humpback deformity and assess the shape of the scaphoid after grafting. Three-dimensional computed tomography was used for analyzing displacement of scaphoid fractures[48] and to calculate the volume of bone loss and fracture angulation.[5] The amount lost in nonunion of the scaphoid was found to be 6-15% and the missing bone was prismic in shape with the base faces palmarly. This technique is impractical because of its high cost and the protracted time needed for the study.

Trumble[64] used magnetic resonance imaging (MRI) scanning and found decreased signal intensity of the proximal pole to be present in all cases that showed biopsy specimens compatible with avascular necrosis. Plain radiographs were not accurate in making the diagnosis of scaphoid avascular necrosis. Perlik and Guilford[51] also found that MRI accurately predicated scaphoid viability in nonunited fractures when compared with plain radiographs, tomographs and operative impressions of the surgeon. The diagnostic accuracy was determined by histologic studies. They suggested that MRI should aid in the definitive preoperative determination of the healing potential of scaphoid nonunions.

Urban et al[66] found patchy distribution of scaphoid proximal pole avascular necrosis. They concluded that random biopsy alone cannot accurately predict the histologic status of the entire specimen. Combining MRI and the surgeon's operative impression should provide adequate information regarding the scaphoid vascularity.

Natural History

Mack et al[43] studied the natural history of 47 symptomatic scaphoid nonunions with follow-up time ranging from 5 to 53 years. They described three radiographic patterns: cyst formation and resorption of scaphoid on average by 8 years, radioscaphoid arthritis by 17 years, and generalized wrist arthritis by 31 years. Only a few cases did not have arthritis at 10 years. They recommended that all scaphoid nonunions be reduced and grafted regardless of symptoms and patients with asymptomatic, undisplaced, stable nonunion should be advised of possible future arthritis. They suggested, however, that a prospective longitudinal study is needed for a natural history of asymptomatic nonunions of the scaphoid.

Ruby et al[56] reviewed 56 scaphoid nonunions with average follow-up of 1 to 40 years. The incidence of arthritis increased with time. At one point, 97% of the patients who were injured for at least five years or more had developed arthritis. Eighty-nine percent of these became symptomatic at one point. Vender et al[68] studied 64 patients with symptomatic scaphoid nonunions and found, at four years, that 75% had developed radioscaphoid arthritis and at nine years, 60% had extension to midcarpal joint. Scapholunate advanced collapse or slac wrist was the ultimate pattern of arthritis due to rotary subluxation of the distal fragment. Displaced fractures, disi, and avascular necrosis are significant factors associated with arthritis.

Kerluke and McCabe[35] concluded that these previous reports on natural history of scaphoid nonunions did not satisfy all criteria for natural history studies and none developed an inception cohort, which is the most important requirement for such studies. They concluded that the natural history of scaphoid nonunion is not as severe as has been reported in the literature. A true natural history study as suggested by these authors would be difficult to conduct and requires a prospective longitudinal long-term follow-up on patients with asymptomatic scaphoid unions.

Asymptomatic fibrous union does exist, but it can be disrupted by a second injury. The data from these studies suggest but do not prove that asymptomatic nonunion may develop degenerative changes if sufficient time elapses. Asymptomat-

(continued)

When scaphoid fractures are suspected, five views should be obtained: Posteroanterior, true lateral, elongation, 45° supination, and 45° pronation from neutral forearm position.

ic fibrous union may exist, but it can be disrupted by a second injury.

Lindstrom and Nystrom[40] in a natural history study of 33 asymptomatic patients with scaphoid nonunion found that 100% developed progressive arthritis between 10 and 17 years after injury. They concluded that freedom from pain is not a reliable prognostic indicator and that patients with scaphoid union are likely to benefit from surgical treatment.

Scaphoid Fractures in Children

Scaphoid fractures in children younger than 10 years of age are rare and difficult to diagnose. During the period of ossification (4-15 years) the peripheral cartilage of the ossifying scaphoid acts as a buffer, preventing fractures of the ossific nucleus. The possibility was raised that fractures of the ossifying scaphoid may present as a bipartite scaphoid at maturity.[31] Unlike adults, fractures of the distal one-third and avulsion injuries are typical in children and fractures of the proximal pole are very rare. In a series of 108 scaphoid fractures in children, all fractures healed with nonoperative treatment.[67]

Early diagnosis and treatment of stable scaphoid fractures should result in near 100% union rate.

Treatment of Scaphoid Fractures

Nonoperative Treatment.— Early diagnosis and treatment of stable scaphoid fractures should result in near 100% union rate. Long arm thumb spica cast immobilization for six weeks, followed by short arm thumb spica cast until radiographic bony healing, is recommended for waist fractures. Short arm thumb spica cast alone may be used. Distal pole fractures require the least duration of immobilization, 4 to 8 weeks, whereas proximal pole fractures require the longest duration, 12 to 30 weeks. Fractures of the scaphoid tubercle and distal pole should heal readily with short arm thumb spica cast immobilization. Duncan and Thurston[22] suggested that the incidence of true fractures is very low in patients following wrist trauma and tenderness in the anatomical snuff box with a clinical diagnosis of scaphoid fracture. Cast immobilization for these patients, who were proved two weeks later not to have fractures, represented a significant loss of productivity to the community and income to the patients. Ganel et al[27] proposed discontinuation of cast immobilization 72 hours after injury if the bone scan findings are negative for fracture. Bone scan false-positive rates vary between 6% and 16%, but false-negative results are not reported. Their recommended diagnostic strategy consists of obtaining limited scintigraphy after 72 hours of injury and in negative x-rays. In spite of these recommendations, it seems that immobilization for two weeks is a reasonable initial treatment for suspected scaphoid fractures because these patients may have scapholunate ligament injury which may benefit from cast immobilization.

Operative Treatment.—Surgical treatment is indicated for scaphoid fractures that are markedly collapsed, more than 1 mm displaced, and for those associated with severe ligament injuries such as transcaphoid perilunate dislocation.

Complications

Significantly displaced fractures are associated with high incidence of avascular necrosis and nonunion. Post-traumatic arthritis, especially of the radioscaphoid and capitate-lunate joints develops more often in the presence of nonunion and avascular necrosis. The incidence of nonunion after fresh fractures varies between 5% and 24%.[17,23,41] The incidence of post-traumatic arthritis after primary bony healing of scaphoid fractures varies from 2% to 16%.[17,23,41] Malunion may develop if the scaphoid heals with the distal fragment in excessive flexion and proximal fragment in extension. This predisposes to post-traumatic arthritis[3] and loss of motion.[9]

Treatment of Scaphoid Nonunions

Nonoperative Treatment.—Several treatment methods were described for scaphoid nonunion. The treatment should be tailored to the patients' needs, type of nonunion, degree of arthritis if any is present and, perhaps, vascularity of the proximal pole. Cooney et al[18] recommended nonoperative treatment for stable nonunions for at least four months using cast immobilization. Unstable nonunions with more than 1 mm of displacement or DISI pattern are best treated operatively.

Personal observations indicate that scaphoid nonunions that present after 6 months from injury may not respond favorably to cast immobilization. Nonoperative treatment also includes casting with pulsed electromagnetic field (PEMF). Frykman et al[26] achieved 79% union rate with this combination. They had better healing with long arm cast than short arm cast immobilization. The technique is contraindicated in synovial pseudoarthrosis, arthritis, carpal collapse, and prolonged nonunion for over 5 years. However, in a continuation study from the same group, Adams et al[2] found the results of PEMF are not as favorable as they previously reported. The healing rate dropped to 69% and those for the proximal pole was 50%. They suggested that the technique should be a secondary alternative to bone grafting.

Operative Treatment.—Operative approach to the scaphoid can be palmar or dorsal. Wedge

or cancellous bone grafting and internal fixation are the most frequently used method of treatment.

Common Techniques

Cooney et al[18] found that the union rate after scaphoid bone grafting was higher in undisplaced than in displaced nonunions. The dorsal or volar inlay bone grafting techniques had higher union rates than the dorsal peg grafting technique. Better results were achieved when inlay grafting was combined with Kirschner wire fixation.

Green[30] used the Russe technique which utilizes volar approach and corticocancellous bone grafting without internal fixation. He concluded that true avascular necrosis of the proximal pole cannot always be accurately predicated on the basis of radiographs. Direct scrutiny of punctate bleeding points appears to be a better method of determining the viability. He concurred with Russe's original observation that this operation is not likely to be successful if the proximal pole is totally avascular.

Stark et al[61] treated 151 ununited scaphoid fractures with cancellous iliac bone grafting and Kirschner wire fixation through a volar approach and achieved 97% healing rate. Fracture location and existence of proximal pole necrosis did not affect their results adversely. They also observed that treatment of scaphoid nonunion has prevented or slowed the progression of an existing mild or moderate arthritis. They used cast immobilization for an average of 18 weeks postoperatively. Watson et al[71] achieved 89% union using multiple K-wire fixation through a dorsal approach, with or without bone graft, for treatment of scaphoid nonunion.

Bone grafting and new screw fixation has the advantage of providing rigid internal fixation and compression at the same time. Herbert screw fixation[33] of scaphoid fractures and nonunions has emerged recently as a popular technique. Radial styloidectomy[44,60] can be a useful adjunct in the management of scaphoid nonunion, especially in the presence of residual impingement of the distal pole against the radius and minimal radioscaphoid arthritis.

Less Common Techniques

A variety of techniques have been described for treating scaphoid nonunion including the use of certain internal fixation devices and bone grafting techniques. Fernandez[24] reported a 95% union rate with conventional 2.7 mm Association for the Study of Internal Fixation (ASIF) cortical screw fixation and cast free after treatment. He used postoperative splint immobilization for 2 weeks. The concern with all conventional screws is the large screw head size which may cause impingement and erosion of the scapho-trapezial-trapezoid joint. Also, screw position in the distal pole is frequently palmar with eccentric rather than axial placement. With this technique, overdrilling of the entire distal pole is necessary to obtain compression of the graft, and yet compression of the proximal pole may not be possible. Staple osteosynthesis was described in a study from Finland with 10 of 16 scaphoids showing sound healing.[38] The Ender blade plate system was described[34] as a method of scaphoid fixation in spite the possibility of impingement and the necessity for late removal. Multiple percutaneous pinning was described in one study with a 77% healing rate, but without long-term follow-up for arthritis.[16]

Vascularized pedicle bone graft from the distal radius was described with a healing rate of 90%.[74] Soft tissue interposition arthroplasty was used by Boeckstyns et al.[6] Pain relief was achieved with this technique but carpal collapse increased over time in more than 50% of the patients and osteoarthritis developed with and, sometimes, without the presence of carpal collapse.

Salvage Procedures.—These include excision of scaphoid proximal pole, proximal row carpectomy, limited wrist arthrodesis, and total wrist arthrodesis. Carter et al[12] used scaphoid allografts to replace necrotic small (20%) proximal fragments. The indications are unusual circumstances not amenable to standard procedures of autogenous bone grafting. Six of eight patients had healing, which suggests that healing of avascular proximal pole is possible.

Excision of the proximal pole alone will not prevent arthritis between the distal fragment and radial styloid. Proximal row carpectomy is not desirable in young patients who have physically demanding occupations and in the presence of capitolunate arthritis. Wrist instability and arthritis can develop after proximal row carpectomy between the distal carpal row and radius. Limited wrist arthrodesis is indicated in failed scaphoid grafting, in the presence of limited arthritis, and when excision of the proximal fragment may be necessary as in avascular necrosis. The various arthrodeses combinations include scaphoid capitate lunate,[55] scaphoid capitate, excision of scaphoid with capitate lunate fusion,[37] excision of distal fragment and proximal pole capitate lunate fusion,[70] and excision of proximal pole and scaphocapitate or scaphoid capitate lunate fusion.

Total wrist arthrodesis is indicated in the presence of advanced arthritis, failed limited arthrodesis, and failed scaphoid grafting in the presence of arthritis. Long-term pain relief and satisfactory functional results can be achieved following total wrist arthrodesis.[54]

Total wrist arthrodesis is indicated in the presence of advanced arthritis, failed limited arthrodesis, and failed scaphoid grafting in the presence of arthritis.

Herbert Screw.—In 1984 Herbert and Fisher[33] developed a new technique for treating scaphoid fractures and nonunions and introduced a double-threaded bone screw where the screw head is replaced by a second thread. This reduces the diameter of the overall implant. The difference in the leading and trailing thread's pitch allows compression of the fracture fragments. They suggested that this technique provides effective fixation and early functional recovery.

Cadaveric Studies.—Shaw[58] measured the compressive forces generated by various scaphoid screws. Although the Herbert screw did not have the fixation capabilities of others, its size was the best of all screws tested. The Herbert screw has little interfragmentary compression unless the trailing threads are completely buried. Other screws had too large a head size. Rankin et al [53] used cadaveric scaphoids to compare the compressive forces generated by 3.5 mm ASIF cannulated 5 mm head screw with that generated by standard 3.5 mm ASIF, 2.7 mm ASIF, and Herbert screws. The 3.5 mm cannulated screw offers more rigid fixation than the Herbert screw and adds the advantage of placement over a guided wire. The concern, as with all other screws, is the impingement of the screw head and insertion.

Carter et al[11] tested the force, bending rigidity, and bending moment at failure of three fixation systems in a scaphoid osteotomy model. They found that both the Herbert and cannulated screws were significantly stiffer and stronger in resisting bending forces than paired parallel 0.045 inch Kirschner wires. Botte et al[7] studied the cadaver scaphoid vascularity after Herbert screw insertion and concluded that necessary exposure can be done without compromising the important dorsal blood supply with either palmar or dorsal approach. The dorsal approach can be accomplished safely if care is taken to preserve the dorsal ridge vessels.

Figure 1. A 17-year-old high school football player had failure of earlier bone grafting and K-wire fixation (done at another hospital) for the treatment of a scaphoid nonunion. Complete resorption of the bone graft is evident. Associated scapholunate ligament instability is manifest by a gap between scaphoid and lunate.

Clinical Studies.—Moran and Curtin[46] used the Herbert screw for treating unstable scaphoid fractures, delayed unions, and nonunions. They encountered complications including failure of the scaphoid to unite (20%) due to loosening and incorrect placement of the screw. They recommended caution with its use.

DeMaagd and Engber[21] used retrograde Herbert screw fixation for the treatment of small proximal pole fragment scaphoid nonunions through a dorsal approach. Herbert screw fixation though a dorsal approach was also advocated by another study with an 87% healing rate in scaphoid nonunion.[66]

Cooney et al[18] used open reduction, length restoration with anterior interpositional wedge graft, and Herbert screw fixation to restore carpal stability, in cases of unstable scaphoid fractures and nonunions. Their union rate was 71% and 81% after the second operation. Scaphoid stability was achieved by improvement of the scaphoid angle. Nonunion was related to improper screw placement, failure to compress the fragments, bone graft resorption, and persistent avascular necrosis. These authors prefer this technique over the traditional Russe technique especially when there is carpal instability, that is, scaphoid lunate angle greater than 60°. They described a method of tomographic measurement of scaphoid angulation on PA and lateral views. Normal angulation is 30° ± 5° in postero anterior and 25° ± 5° in the lateral views. They concluded that using the Herbert screw must be done with caution and is contraindicated when avascular necrosis is present. Personal experience has shown that scaphoid nonunion with MRI-documented proximal pole avascular necrosis can be treated with bone grafting and Herbert screw fixation with satisfactory results. The proximal pole in these cases incorporates into the graft less rapidly than the distal pole.

Nakamma et al[49] found that associated DISI deformity will be corrected with anterior wedge graft and Herbert screw fixation because the deformity is usually not due to ligament tear.

Adams et al[1] achieved with Herbert screw fixation an overall union rate of 67% for both acute fractures and nonunions. Healing correlated strongly with operative technical factors of the procedure. Nine patients, whose fixation showed poor alignment of the scaphoid, inaccurate jig placement, and improper screw length, had a nonunion rate of 78%. Scaphoid fixation without these technical problems had a healing rate of 93%. These authors had similar results with the Russe procedure with the exception of reducing postoperative immobilization time. They observed that if scaphoid angulation is not corrected, axial screw placement will not be accomplished and that eccentric screw placement is associated with a lower union rate. In their group both acute fractures and nonunions had the same healing rate, but subsequently patients with acute fractures were less satisfied than those with nonunions. They concluded that the Herbert screw may offer advantages in management of selected cases. Compson and Heatley[15] found poor intraoperative imaging to be a major contributing factor in delayed union and nonunion after Herbert screw fixation. Based on their anatomic radiographic study, their recommendation was to obtain a minimum of four views intraoperatively: An ulnar deviated posteroanterior and true lateral views to display the proximal pole and semipronated and semisupinated views to display the distal pole. Accurate realignment of the scaphoid, precise jig application, and proper screw position and length with intraoperative radiographic confirmation are essential technical features for obtaining optimum results.

Author's Surgical Technique

A palmar incision is placed immediately radial and parallel to the flexor carpi radialis tendon and centered at the scaphoid tuberosity and radial styloid level. The incision is extended distally beyond that of a Russe incision and curved into the thenar eminence. The flexor carpi radialis tendon is retracted ulnarly and the radial artery is retracted radially. The superficial branch of the radial artery is ligated. The capsule is opened longitudinally in the flexor carpi radialis bed. The radioscapholunate, radiocapitate, and trapezioscaphoid ligaments are incised longitudinally. If severe humpback deformity is present, the osteophytes are removed from the scaphoid and radius. The fibrous nonunion is removed and the angulation is corrected in two planes, radial and dorsal. Inadequate correction of angular deformity will interfere with axial placement of the screw within the scaphoid.

An iliac wedge bone graft is taken from the contralateral side and sculptured to add length palmarly and ulnarly. Any protruding graft edges must be rongeured and flushed with the scaphoid margin. Temporary K-wire is used to hold the grafted reduction and inserted radially so it does not interfere with screw or alignment guide (jig) placement. Chun et al[13] described a modification for inserting the Herbert screw by creating a trough in the palmar aspect of the trapezium to allow adequate placement of the guide and to prevent excessive palmar placement of the screw. This method provides more satisfactory exposure than the alternative elevation of the distal pole. The hook of the jig is placed around the proximal pole and a K-wire is placed through the barrel of the jig crossing the fracture. Botte and Gilberman[8] recommended intraoperative x-rays to confirm the position of the jig over the proximal pole before inserting the screw. Four view x-rays are obtained intraoperatively to ensure adequate jig placement, graft placement, and K-wire position. Fluoroscopy control can be a useful adjunct to x-rays. If satisfactory wire placement is achieved, the scaphoid is drilled and tapped and the screw is inserted. The jig is removed and final x-ray is obtained. Any residual DISI deformity or scapholunate gap can be corrected by additional K-wire fixation after flexing the lunate.

Figure 2. Three and one-half months after anterior iliac crest wedge bone graft and Herbert screw fixation. The scaphoid nonunion is healed and the normal relationship between scaphoid and lunate is restored.

A preferable alternative is to place the screw-free hand without using the jig. With a free-hand technique, a K-wire is placed radially in the scaphoid and x-ray is obtained. If the position is satisfactory, the screw is inserted axillary parallel to the wire. The length of the screw is determined by direct measurement of a K-wire applied axially over the anterior aspect of the scaphoid. Drilling and tapping must be done only once. Redrilling for a malpositioned screw will invite loosening of the screw and union failure. Meticulous repair of scaphotrapezial ligament and palmar radiocarpal ligaments should be done. Postoperatively a short arm thumb cast is applied.

Satisfactory outcome can be achieved if adequate and timely treatment of scaphoid fractures is provided.

Scaphoid Malunion

Nakamura et al[47] treated four patients with scaphoid malunion and DISI deformity using osteotomy, anterior wedge bone grafting, and Herbert screw fixation. Amadio et al[3] used trispiral tomography to study 46 united scaphoids and found more than 50% had increased lateral scaphoid angulation, i.e., humpback deformity. This outcome was associated with poor clinical and radiographic results as compared with those without malunion. They concluded that union alone is an insufficient criterion for success in treating scaphoid fractures.

Failed Bone Grafting

Carrozzella et al[10] studied 20 patients who had failed to have union after scaphoid bone grafting. None of these patients responded favorably to electrical stimulation. Ten patients were treated by salvage procedures including arthroplasty, limited fusion, and total wrist fusion. Ten patients were treated by second bone grafting and one of these with a third bone grafting. Six of these went on to bony healing, but only three were pain free. Total wrist fusion was the ultimate salvage procedure which was used successfully for failed second grafting and for failed arthroplasty and limited fusion. The authors concluded that persistent nonunion after surgery is a difficult problem. The union rate after the second grafting is 60%, which is less than first grafting. A high percentage (67%) of these patients, remain symptomatic.

The figures demonstrate a case of scaphoid union after a previous failed bone grafting.

Conclusion

Fractures of the scaphoid are often missed. Careful patient evaluation and radiographic examination are necessary for diagnosing scaphoid fractures. Satisfactory outcome can be achieved if adequate and timely treatment of scaphoid fractures is provided. Unrecognized scaphoid fractures are often complicated by nonunion.

Treating scaphoid nonunions is a difficult problem and more challenging is the treatment of failed nonunion after grafting. Angulation in scaphoid nonunion is frequently present and should be corrected in two planes. An anterior wedge graft from the iliac crest should be used to restore the length of a shortened scaphoid. The Herbert screw fixation is technically demanding, but satisfactory results can be achieved after a learning curve. Axial screw placement in the scaphoid is crucial and may not be achieved if the angulation is not corrected. Radial styloidectomy should be considered if residual radial impingement against the distal pole is present. Residual DISI deformity from associated scapholunate ligament injury, if present, also should be corrected. Achieving union should not be the only treatment goal; correcting the disturbed biomechanics is essential. Otherwise, surgical treatment will convert scaphoid nonunion into malunion. ℑ

References

1. Adams B, Blair W, Reagan D et al. Technical factors related to Herbert screw fixation. *JHS*, 1988;13A:893-899.
2. Adams B, Frykman G, Taleisnik J. Treatment of scaphoid nonunion with casting and pulsed electromagnetic fields: A study continuation. *JHS* 17A, 1992, 910-914.
3. Amadio P, Berquist T, Smith D et al. Scaphoid malunion. *JHS* 14A, 1984, 679-687.
4. Baldy do Reis F, Koeberle G, Leite N et al. Internal fixation of scaphoid injuries using Herbert screw through dorsal approach. *JHS*, 1993; 18A:792-797.
5. Belsole R, Hilbelink D, Llewellyn A et al. Computed analysis of the pathomechanics of scaphoid waist nonunions. *JHS* 16A, 1991, 899-906.
6. Boeckstyns M, Kjaer L, Busch P et al. Soft tissue interposition arthroplasty for scaphoid nonunion. *JHS* 10A, 1985, 109-114.
7. Botte M, Mortensen W, Gelberman R et al. Internal vascularity of the scaphoid in cadavers after insertion of Herbert screw. *JHS* 13A: 1988, 216-220.
8. Botte M, Gelberman R. Modified techniques for Herbert screw insertion in fractures of the scaphoid. *JHS* 12:1987, 149-150.
9. Burgess R. The effect of a simulated scaphoid malunion on wrist motion. *JHS* 1987,12A, 774-776.
10. Carrozzella J, Stern P, Murdock P. The fate of failed bone graft surgery for scaphoid nonunions. *JHS* 14A, 1989, 800-806.
11. Carter F, Zimmerman M, DiPaola D et al. Biomechanical comparison of fixation devices in experimental scaphoid osteotomies. *JHS* 16A, 1991, 907-912.
12. Carter P, Malinin T, Ahbey P et al. The scaphoid allograft: A new operation for treatment of the very proximal scaphoid nonunion or for the necrotic, fragmented scaphoid proximal pole. *JHS* 14A, 1989, 1-12.
13. Chun S, Wicks B, Meyerdierks F et al. Two modifications for insertion of the Herbert screw in the fractured scaphoid. *JHS* 1990, 669-670, 15A.
14. Compson J, Waterman J, Spencer J. Dorsal avulsion fractures of the scaphoid diagnostic implications and applied anatomy. *JHS*, 1993; 18B:58-61.
15. Compson J, Heatley F. Imaging the position of a screw within the scaphoid. A clinical anatomical and radiological study. *JHS*, 1993; 18B:716-724
16. Costo M, Camp R. Percutaneous pinning of symptomatic scaphoid nonunions. *JHS* 11A, 1986, 350-355.
17. Cooney W, Dobyns J, Linschend R. Nonunion of the scaphoid: Analysis of the results from bone grafting. *JHS* 5A 1980, 343-354
18. Cooney W, Linschemd R, Dobyns J, Wood M. Scaphoid nonunion: Role of anterior interpositional bone graft. *JHS* 13A, 1988, 635-650.
19. Dallner R, Emmerling E, Buterbaugh G. Proximal & distal oblique radiography of the wrist value in occult injuries. *JHS* 17A, 1992, 499-503
20. Destot E. *Injuries of the Wrist. A Radiological Study.* Paul B. Hoeber, NY 1926.

21. DeMaagd R, Engber W. Retrograde Herbert screw fixation for treatment of proximal pole scaphoid nonunions. *JHS* 14A, 1989, 996-1003.
22. Duncan D, Thurston A. Clinical fracture of the carpal scaphoid: An illusionary diagnosis. *JHS*, 10B, 1985, 375-376.
23. Duppe H, Johnello, Lundhorg G et al. Long term results of fracture of the scaphoid. *JBJS*. 1994,76A 249-252.
24. Fernandez D. Anterior bone grafting and conventional lag screw fixation to treat scaphoid nonunions. *JHS* 15A, 1990, 140-147.
25. Fisk G. An overview of injuries of the wrist. *Clin Orthop & Rel Res*. 1980, #149, 137-144.
26. Frykman G, Taleisnik J, Peters G et al. Treatment of nonunited scaphoid fractures by pulsed electromagnetic field and cast. *JHS* 11A, 1986, 344-349.
27. Ganel A, Engel J, Oster Z et al. Bone scanning in the assessment of fractures of the scaphoid. *JHS* 1979, Vol 4, 540-543.
28. Gelberman R, Menon J. The vascularity of the scaphoid bone. *JHS* 5:508-513, 1980.
29. Gelberman R, Wolock B, Siegel D. Fractures and nonunions of the carpal scaphoid: Current concepts review. *JBJS*,71A #10 1989, 1560-1565.
30. Green D. The effect of avascular necrosis on Russe bone grafting for scaphoid nonunion. *JHS* 10A, 1985, 597-605.
31. Greene M, Hadied H, LaMont R. Scaphoid fractures in children. *JHS*. 9A, 1984, 536-541.
32. Hanks G, Kalenak A, Bowman L et al. Stress fractures of the carpal scaphoid. A report of four cases. *JBJS*, 1989,71A,6:938-941.
33. Herbert T, Fischer W. Management of the fractures scaphoid using a new bone screw. *JBJS*. 1984;66B, #1 114-123.
34. Heune D, Huene D. Treatment of nonunions of the scaphoid with the Ender compressive blade plate system. *JHS* 16A, 1991, 913-22.
35. Kerluke L, McCabe S. Nonunion of the scaphoid: A critical analysis of recent natural history studies. *JHS*. 1993;18A:1-3.
36. Kessler I, Silberman Z, Heller J et al. Diagnostic considerations in fractures of the carpal scaphoid bone. *Surg Gyn Obst*. 1960, 110, 117-120.
37. Ktrschenbaum D, Schneider L, Kirkpatrick W et al. Scaphoid excision and capitolunate arthrodesis for radioscaphoid arthritis. *JHS*. 1993;18A:780-785.
38. Korkala O, Antti-Poika I. Late treatment of scaphoid fractures by bone grafting and compression staple osteosynthesis. *JHS* 1989, 14A, 491-5.
39. Langhoff O, Anderson J. Consequences of late immobilization of scaphoid fractures. *JHS* 13B, 1988, 77-79.
40. Lindstorm G, Nystrom A. Natural history of scaphoid nonunion with special reference to "asymptomatic" cases. *JHS*, 1992;17B:697-700.
41. Lindstorm G, Nystrom A. Incidence of post-traumatic arthrosis after primary healing of scaphoid fractures: A clinical and radiographic study. *JHS*. 1990;15B:11-13.
42. Linscheid R, Dobyns J, Beabout J et al. Traumatic instability of the wrist, diagnosis, classification and patomechanics. *JBJS*. 1972; 54A:1612-1632.
43. Mack G, Bosse M, Gelberman R, Yu E. The natural history of scaphoid nonunion. *JBJS* 66A #4 1984, 504-509.
44. Mazet R, Hohl M. Radial styloidectomy and styloidectomy plus bone graft in treatment of old ununited carpal scaphoid fractures. *Ann Surg*. 1960;152:296-302.
45. Milliez P, Dallaserra M, Thomine J. An unusual variety of scaphocapitate syndrome. *JHS*. 1993;18B:53-57.
46. Moran R, Curtin J. Scaphoid fractures treated by Herbert screw fixation. *JHS* 13B, 1988, 453-455.
47. Nakamura R, Hori M, Horii E et al. Reduction of the scaphoid fracture with DISI alignment. *JHS*, 1987, 12A, 1000-1005.
48. Nakamura R, Imaeda T, Horii E et al. Analysis of scaphoid fracture displacement by three-dimensional computed tomography. *JHS* 16A, 1991, 485-492.
49. Nakamma R, Imaeda T, Tsuges S et al. Scaphoid nonunion with DISI deformity. *JHS*, 1991;16B:156-161.
50. Obletz B, Halbstein B. Nonunion of fractures of the carpal navicular. *JBJS* 1938, 20:424-428.
51. Perlik P, Guilford WB. Magnetic resonance imaging to assess vascularity of scaphoid nonunions. *JHS* 1991, 16A, 479-484.
52. Prosser A, Brenkel I, Irvine G. Articular fracture of the distal scaphoid. *JHS*,13B (1988), 87-91.
53. Rankin G, Kuschner S, Orlando C et al. A biomechanical evaluation of a cannulated compressive screw for use in fractures of the scaphoid. *JHS* 16A, 1991, 1002-1010.
54. Rayan GM. Wrist arthrodesis. *JHS*, 1986;11A:356-364.
55. Rotman M, Manske P, Pruitt D et al. Scaphocapitolunate arthrodesis. *JHS*. 1993;18A:26-33.
56. Ruby L, Stinso J, Belsky M. The natural history of scaphoid nonunion. *JBJS* 67A #3 1985, 428-432.
57. Sanders W. Evaluation of the humpback scaphoid by computed tomography in the longitudinal axial plane of the scaphoid. *JHS* 13A, 1988, 182-187.
58. Shaw J. A biomechanical comparison of scaphoid screws. *JHS*, 1987, 12A, 347-353.
59. Smith D, Cooney W, An K et al. The effects of simulated unstable scaphoid fractures on carpal motion. *JHS*, 14A, 1989, 283-291.
60. Smith L, Friedman B. Treatment of ununited fracture of the carpal navicular by styloidectomy of the radius. *JBJS*, 1956;38A:368-375.
61. Stark H, Rickard T, Zemel N et al. Treatment of ununited fractures of the scaphoid by iliac bone grafts and Kirschner wire fixation. *JBJS* 10A #7 1988,982-991.
62. Stordahl A et al. Bone scanning of fractures of the scaphoid. *JHS* 1984, 9B,189-190.
63. Taleisnik J, Kelly P. The extraosseous and intraosseous blood supply of the scaphoid bone. *JBJS*. 1966, 48(A), 1125-1137.
64. Trumble T. Avascular necrosis after scaphoid fractures: A correlation of magnetic resonance imaging and histology. *JHS* 15A, 1990, 557-564.
65. Trumble T, Benirschkle S, Vedder N. Ipsilateral fractures of the scaphoid and radius. *JHS*. 1993,18A:8-14.
66. Urban M, Green D, Aufdemorte T. The patch configuration of scaphoid avascular necrosis. *JHS*. 1993;18A 669-674.
67. Vahvanen V, Westerlund M. Fractures of the carpal scaphoid in children. A clinical and radiographic study of 108 cases. *Acta Orthop. Scand* 1980,51 909-913.
68. Vender M, Watson H, Weiner B et al. Degenerative changes in symptomatic scaphoid nonunion. *JHS* 12A, 1987, 514-519.
69. Viegas S, Patterson R, Hillman G et al. Simulated scaphoid proximal pole fracture. *JHS* 16A, 1991, 495-500.
70. Viegas S. Limited arthrodesis for scaphoid nonunion. *JHS*. 1994, 19A 127-133.
71. Watson H, Pitts E, Ashmead D et al. Dorsal approach to scaphoid nonunion. *JHS*. 1993;18A:359-365.
72. Weber E. Biomechanical implications of scaphoid waist fractures. *Clin Orthop & Rel Res*. 1980 #149, 83-89.
73. Weber E, Chao E. An experimental approach to the mechanism of scaphoid waist fractures. *JHS* 1978. Vol 3:142-148.
74. Zaidemberg C, Siebert J, Angrigiani C. A new vascularized bone graft for scaphoid nonunion. *JHS*. 16A, 1991, 474-478.

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The Scimitar Syndrome: Demonstration with Magnetic Resonance Imaging

Larry Ramseyer, MD; William Mansfield, MD; William Simon, MD

The authors describe a case of scimitar syndrome, which is a rare congenital lung abnormality characterized by partially anomalous pulmonary venous return. MRI findings as well as other methods of diagnosis are discussed.

Case Report

A 12-year-old white female was referred by her school for evaluation of possible scoliosis. Thoracic radiographs and subsequent chest radiographs demonstrate right pulmonary hypoplasia and an unusual curvilinear soft tissue density posterior to the cardiac silhouette (arrowhead, Fig. 1). MR angiographic images were next obtained on a 1.0-T superconducting system (Siemens) using T1 spin echo pulse sequences and gradient echo sequences. The right pulmonary artery is hypoplastic (Fig. 2). There is a large anomalous right pulmonary vein draining into the inferior vena cava. This is seen on the coronal gradient echo images as a bright signal intensity vessel to the right of midline (arrowhead, Fig. 3). The bright signal intensity vessel to the left of midline is the aorta. The large anomalous right pulmonary vein is seen on axial gradient echo images adjacent to the inferior vena cava (Fig. 4) and as it enters the inferior vena cava (Fig. 5).

The patient is doing well and has not required any medical or surgical treatment for her condition. Her activities have not been limited.

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Discussion

The scimitar syndrome is a rare congenital lung abnormality characterized by partially anomalous pulmonary venous return. The anomalous pulmonary vein is demonstrated on chest radiographs as a curvilinear soft tissue density posterior to the cardiac silhouette, similar to the Turkish sword

Figure 1. PA chest radiograph shows hypoplastic right lung and anomalous pulmonary vein posterior to cardiac silhouette (arrowhead).

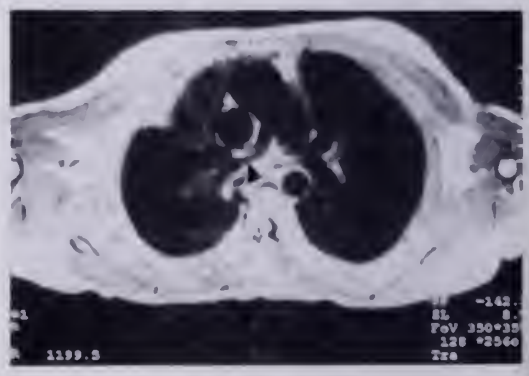

Figure 2. Right pulmonary artery (arrowhead) is hypoplastic.

for which the syndrome is named. Associated findings usually include hypoplastic right lung, hypoplastic or absent right pulmonary artery, bronchial abnormalities, and abnormal arterial supply to the right lung from the thoracic or abdominal aorta.[1]

The anomalous pulmonary vein most commonly drains into the IVC above or below the right hemidiaphragm. Less commonly, there can be drainage into the hepatic veins, portal vein, azygos vein, coronary sinus, or right atrium. The scimitar syndrome is associated with other cardiac abnormalities in approximately 25% of cases.[2] The most commonly associated abnormality is atrial septal defect. Coarctation of the aorta, ventricular septal defect, and Tetralogy of Fallot have also been reported.

The scimitar syndrome has been divided into two types.[3,4] The "infantile" type presents very early and is characterized by a large shunt with respiratory insufficiency and cardiac failure. The "adult" type presents in adulthood and has a small shunt. These patients lead a normal life without surgical intervention.

The diagnostic "gold standard" for evaluating the scimitar syndrome has been angiography. The utility of angiography has been limited due to the necessity for catheterization, making it an invasive procedure. CT findings for the scimitar syndrome have been described; however unreconstructed CT images are limited to the axial plane. Evaluation of vascular structures requires administration of iodinated contrast and CT uses ionizing radiation.[5,6] MR angiography has none of these limitations. Images can be obtained in any desired plane. Vascular structures are imaged on MR-based flow phenomena. MRI does not require either iodinated contrast or ionizing radiation. Associated findings are easily visualized.

Limitations of the MRI technique are largely due to limits in resolution and limited pulmonary parenchymal evaluation.[7] Large anomalous vessels are easily visualized; however, small anomalous vessels may not be detected. Thus, in potential surgical cases, angiography will show a more detailed "road map" for the surgeon. The pulmonary parenchyma is poorly visualized with MRI and subtle parenchymal alterations will be missed. Whether this is a significant limitation is doubtful.

Figure 3. Coronal gradient echo MR image demonstrates large anomalous pulmonary vein to right of midline.

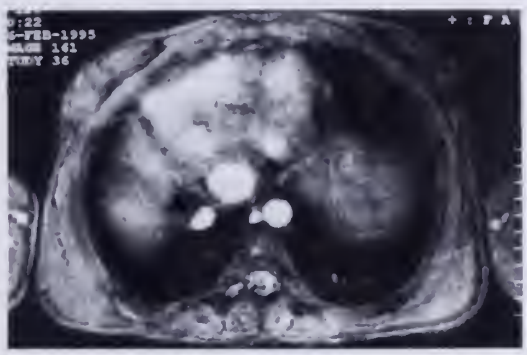

Figure 4. Anomalous right pulmonary vein is seen just posterior and lateral to inferior vena cava.

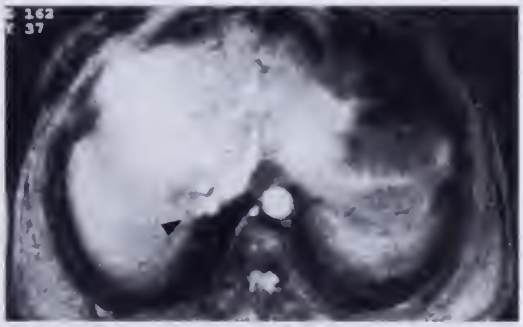

Figure 5. Anomalous right pulmonary vein as it enters inferior vena cava.

Acknowledgment

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References

1. Woodring JH, Howard TA, Kanga JF. Congenital pulmonary venolobar syndrome revisited. *Radiographics* 1994;14:349-369.
2. Gikonyo DK, Tandon R, Lucas RV, Edwards JE. Scimitar syndrome in neonates: Report of four cases and review of the literature. *Pediatr Cardiol* 1986;6:193-197.
3. Dupuis C, Charaf L, Breviere GM, Abou P. The "infantile" form of the scimitar syndrome with pulmonary hypertension. *Am J Cardiol* 1993; 71: 1326-1330.
4. Dupuis C, Charaf L, Breviere GM, Abou P, Remy-Jardin M, Helmius G. The "adult" form of the scimitar syndrome. *Am J Cardiol* 1992; 70: 502-507.
5. Godwin JD, Tarver RD. Scimitar syndrome: four new cases examined with CT. *Radiology* 1986; 159: 15-20.
6. Olson MA, Becker GJ. The scimitar syndrome: CT findings in partial anomalous pulmonary venous return. *Radiology* 1986: 159: 25-26.
7. Naidich DP, Rumancik WM et al. Congenital anomalies of the lungs in adults: MR diagnosis. *AJR* 1988; 151: 13-19.

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Ipecac, Indian Turnip, and Sassafras: A Sampling of American Indian Medicine

Joe D. Haines, Jr., MD

One sunny afternoon, the usual progress of the day was briefly interrupted by a commotion at the front desk of the office. Curious, I saw my nurse escorting a little Indian girl and her mother back to the treatment room.

"She swallowed about a dozen Tylenols."

"How long ago?" I asked.

"About ten minutes," the distraught mother answered.

"Have you given her any ipecac?" I asked.

"What's that?" the mother replied.

As I gave instructions to the nurse to give the ipecac and water and observe the child, I thought about the irony of the circumstances. Here I was, a white doctor, treating an Indian patient with a drug that South American Indians introduced to the white man hundreds of years ago.

In my part of the country, there exists a wealth of medical knowledge that the American Indian passed on to the white man on the frontier. Virgil Vogel says that our "ethnic arrogance" prevented white society from seriously considering any medical knowledge worthwhile that was practiced by "savages." As time progressed and the science of the white man investigated the Indian "herbs," an astonishing number of Indian drugs were found to be extremely valuable.

The Indians had spent centuries observing the animal kingdom, seeing what herbs animals ate when sick, and experimenting with various plants for their own illnesses. The Peruvian Indians knew the narcotic effects of coca leaves for centuries before it was described by the white man in 1884. In 1535, Frenchman Jacque Cartier almost lost his entire crew to scurvy when his ships froze up in the St. Lawrence River. An Indian chief boiled bark and leaves from a local tree to treat the white men, who rapidly recovered. Two hundred years later, James List, the British naval surgeon, read of the episode and discovered the dietary basis of scurvy. The Indians also used quinine, cascara sagrada, and probably salicylic acid for hundreds of years before the white man came to America.

In many respects, the country doctor is not so different from the medicine man. Roland Dixon once wrote about the medicine man, "in the lower stages of culture, at once healer, sorcerer, seer, educator and priest;... but there is frequently specialization, as a result of which each of these activities is exercised by a different person."

Medicines used by the Osage Indians in my part of the country were first recorded by John Hunter, a white captive for 20 years. The Indians in our region used the inner bark of the black locust as an emetic; wild gentian for stomach ailments; hazel bark poultice for ulcers; Indian turnip, in combinations as a decoction, for cough and intermittent fevers; may apple as a cathartic; milkweed in decoction for dysentery, dropsy, and asthma; moss from shellbark walnut (hickory) in infusion for catarrhs and asthmas; and a decoction of inner bark of "mountain birch" as a remedy in coughs, colds, and pulmonary diseases. There is no record of the efficacy of these preparations, but their repeated use signifies a perception of utility.

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The settlers on the frontier were quick to embrace the Indians' medical knowledge since doctors were scarce to nonexistent. One advantage in the lack of doctors was that the settlers were spared much that was bad in European medicine. American medicine then became distinctive from the start and independent from the Old World. Richard Dunlop told how a Cheyenne medicine man treated William Bent of Bent's Fort for a throat infection (diphtheria?) that threatened to choke him to death.

The medicine man strung a sinew with sandburs and dipped it into hot buffalo tallow. This he forced down Bent's throat with a peeled stick. When the tallow melted, he jerked the string out, pulling the infected membrane with it. Bent survived.

Of course, the charlatans and snake-oil charmers were not far behind in the Old West, and remedies like Kickapoo Cough Syrup, a mixture of Jamaica rum and New Orleans molasses, soon turned up. Worthless nostrums like these were inventions of white promoters and passed off as Indian remedies to make a fast buck. In all, the Indians of North and South America used for medicinal purposes well over 200 drugs and many have been included in the official drug compendia of the United States.

The general public has become very interested in alternative medicine and the practitioner must be familiar with a wide variety of herbal remedies, particularly their adverse reactions and allergic manifestations.

I recall a 72 year-old woman who presented to the office one day complaining of "breaking out with perspiration and having hot flashes." She denied any other symptoms. Her medications included furosemide, potassium, and aspirin, and she denied any over-the-counter drug usage.

It was only when questioned about her diet that a clue surfaced. She recalled that she had recently begun drinking sassafras tea on the advice of a family member. The tea was intended as a "a tonic to purify the blood." She admitted to consuming about ten cups per day. I instructed her to stop the tea and her symptoms promptly resolved.

My copy of *American Indian Medicine,* by Virgil Vogel, confirmed my suspicions. Sassafras tea is prepared from the root bark of the sassafras tree and has a long history of being used as an all-purpose tonic. It even rivaled tobacco as an export to Europe at one time. Sassafras is considered an excellent diuretic and diaphoretic. I'll bet you won't find that in your *Harrison's.*

References

Civilization of the American Indian series. Vol 95. *American Indian Medicine.* Norman, OK: Univ of Oklahoma Press, 1970.

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PRAMSGRAM

Initiation of Prenatal Care Among Women Having a Live Birth in Oklahoma

From the Maternal and Child Health Service, Oklahoma State Department of Health

There is substantial evidence to indicate that women who receive insufficient, late, or no prenatal care have increased risks of poor pregnancy outcome.[1,2] Risk-appropriate prenatal care contributes to a healthy outcome not only for the child, but for the mother as well. Improved outcomes are achieved in part by prenatal care providers' identifying high risk behaviors such as smoking, drinking, inadequate weight gain, and offering appropriate interventions. Interventions that are provided early in pregnancy can promote the greatest opportunity for improving birth outcome.

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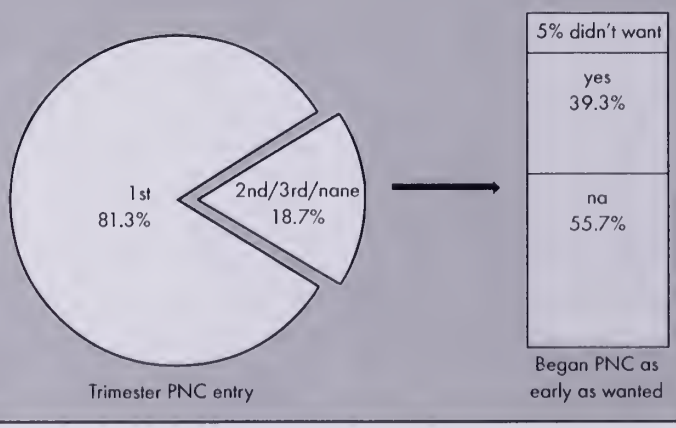
One of the Healthy People Year 2000 Objectives for Maternal and Infant Health is to increase the percent of women who obtain prenatal care beginning in the first trimester (first three months or 13 weeks). In Oklahoma, the goal is that 90% of pregnant women will begin their care in the first trimester by the year 2000. According to birth certificates issued for live births occurring in 1993, 74.8% of Oklahoma women began care in the first trimester.

Studies have found that maternal demographic

Figure 1. Trimester Prenatal Care Entry and Attitude Towards Prenatal Care



In Oklahoma:

- 81.3% of mothers say they entered prenatal care in the first three months of pregnancy; 18.7% either enrolled in care late, or received no care at all.
- Women who did not recognize they were pregnant until at least nine weeks had an 11-fold risk of late or no prenatal care relative to women who recognized their pregnancy within five weeks.
- Women with unwanted pregnancies are more than twice as likely to not receive first trimester care relative to women having intended pregnancies.
- Close to half (44.3%) of all women who enrolled in late care said they received care as early as they wanted.
- For women whose prenatal care was paid by Medicaid, almost one-third (32.9%) reported that they did not get care as early as they wanted.

characteristics such as age, race, parity, education, family income, and marital status are related to inadequate prenatal care.[1,3,4] Other factors found include psychosocial variables such as intention of pregnancy, timing of recognition of pregnancy, family support, and "external barriers" such as financial restraints, transportation problems, absence of child care, and inconvenient clinic hours.[1,5,6]

Assessing adequacy of prenatal care requires two components: timing of prenatal care entry and receipt of services thereafter. In our study, we focus on the timing of the first prenatal care visit. PRAMS data were used to identify factors associated with late initiation of prenatal care and barriers preventing women from getting early care.

Materials and Methods

Mothers were asked, "How many weeks or months pregnant were you when you had your first visit for prenatal care?" Women were divided into two groups according to the timing of the first visit: those beginning care within three months or 13 weeks (first trimester) and those who enrolled late (second or third trimester) or who received no care at all. Barriers to care were assessed with two questions. First, all mothers were asked, "Did you get prenatal care as early in your pregnancy as you wanted?" Those whose response was negative were further asked if several listed barriers kept them from getting care as early as they wanted.

Prenatal care information in this study is based on the self-reports of the women surveyed several months after their deliveries. The extent to which pregnancy outcome or elapsed time affects their recall and response about their prenatal care experiences is unknown. Compared to statistics obtained from birth files, PRAMS estimates of the overall percent of first trimester prenatal care entry was about five percent higher.

Data were analyzed using the Chi-square test, followed by logistic regression to identify factors associated with late or no prenatal care.

General Characteristics

Overall, 81.3% of women said they started their prenatal care in the first trimester, 15.6% in the second trimester, and 3.1% in the third trimester or never entered care (Fig. 1).

Age is a major predictor of not beginning prenatal care in the first trimester. Only 58.1% of teens under 18 and 67.2% of teens between 18 and 19 initiated care in the first trimester, compared to 90.2% of women aged 30 to 34 (Table 1).

Education also plays a significant role in predicting early utilization of prenatal care. Only 73.8% of women with less than 12 years of education entered the care in the first trimester, compared to 95.0% of highly educated women (women with 16 years of education or more) (Table 1).

The relationship between family income and initiation of prenatal care in the first trimester also demonstrated a linear tendency similar to education. As shown in Table 1, 64.9% of women whose

Table 1. Percent Receiving Prenatal Care in First Trimester by Selected Maternal Characteristics

Maternal Characteristics	Percent	Confidence Interval 95%	p-value
Age			<0.001
<18	58.1	(49.9-66.3)	
18-19	67.2	(61.9-72.5)	
20-24	79.5	(77.0-82.0)	
25-29	86.4	(84.3-88.5)	
30-34	90.2	(88.0-92.4)	
35+	85.2	(80.8-89.6)	
Race			<0.001
White	83.6	(82.2-85.0)	
African American	69.9	(63.9-75.9)	
Native American	75.8	(70.9-80.7)	
Education[a]			<0.001
<12 years	73.8	(69.5-78.1)	
12 years	81.4	(79.3-83.5)	
13-15 years	85.3	(82.7-87.9)	
16+ years	95.0	(93.5-96.5)	
Marital Status[b]			<0.001
Married	88.2	(86.9-89.5)	
Unmarried	68.4	(65.5-71.3)	
Family Income			<0.001
<50% FPL[c]	64.9	(59.8-70.0)	
50-99% FPL	73.5	(69.8-77.2)	
100-149% FPL	83.1	(79.9-86.3)	
150-184% FPL	87.7	(83.8-91.6)	
185-249% FPL	89.3	(86.0-92.6)	
250%+ FPL	94.1	(92.6-95.6)	
Source of Family Income			<0.001
Job/Business	86.3	(85.0-87.6)	
Welfare	66.7	(63.1-70.3)	
Other	71.6	(59.7-83.5)	
Geographic Area			0.002
Urban [≥20,000]	83.1	(81.4-84.8)	
Rural [<20,000]	78.8	(76.7-80.9)	
Previous Live Births			<0.001
None	80.4	(78.2-82.6)	
One	85.8	(83.7-87.9)	
Two	79.1	(75.7-82.5)	
Three	72.9	(66.3-79.5)	
Four or more	64.3	(54.4-74.2)	
Birth Interval			<0.001
<2 years	73.5	(69.3-77.7)	
2-3 years	82.9	(80.1-85.7)	
4+ years	86.7	(84.1-89.3)	

a Included only women aged 19 and older
b Marital status at conception
c Federal Poverty Level

Table 2. Percent Receiving Prenatal Care in First Trimester by Selected Prenatal Characteristics

Maternal Characteristics	Percent	Confidence Interval 95%	p-value
Recognition of Pregnancy			<0.001
<5 weeks	92.8	(91.2-94.4)	
5-8 weeks	88.9	(87.3-90.5)	
9+ weeks	46.4	(42.5-50.3)	
Smoking 3 Months Before Pregnancy			<0.001
Yes	76.0	(73.3-78.7)	
No	84.2	(82.7-85.7)	
Location of PNC			<0.001
Hospital	69.6	(65.2-74.0)	
Health Dept.	67.5	(61.8-73.2)	
Private MD/HMO	88.4	(87.0-89.8)	
IHS	74.8	(69.4-80.2)	
Payment of PNC			<0.001
Income Only	84.3	(80.3-88.3)	
Private/Group Ins.	92.2	(91.0-93.4)	
IHS	75.6	(70.5-80.7)	
Medicaid	69.8	(66.9-72.7)	
Pregnancy Intention			<0.001
Intended	89.5	(88.0-91.0)	
Mistimed	75.9	(73.2-78.6)	
Unwanted	64.4	(60.0-68.8)	

family income was less than 50% of the Federal Poverty Level (FPL) received first trimester care compared with 94.1% of those whose family income was greater than 250% FPL. Among women whose family income included welfare as part or whole source of family income, only two-thirds (66.7%) initiated care in the first trimester (Table 1).

Table 1 shows only 64.3% of women with four or more previous live births entered care in the first trimester compared to 80% of women with none or one previous live birth.

Table 1 also presents other maternal characteristics examined in the study, including race, marital status at conception, geographic location, and birth interval.

Prenatal Characteristics

Failure to recognize the pregnancy early was a major risk factor for delayed enrollment in care. Less than half (46.4%) of women who failed to recognize that they were pregnant within the first eight weeks of pregnancy obtained care in the first trimester (Table 2).

Women receiving services at hospitals, health department clinics, and Indian Health Service (IHS) facilities were less likely to report entry into prenatal care in the first trimester than women receiving care from private doctors or HMOs. Also, women receiving Medicaid or IHS-financed care were less likely to report early entry than women who were covered by private or group insurance (Table 2).

Women whose pregnancies were unwanted were at much higher risk for not receiving prenatal care in the first trimester than women whose pregnancies were intended (Table 2).

Regression Analysis

Logistic regression analysis shows that women under age 20, with less than 16 years of education, unmarried, with welfare as part or whole source of family income, with three or more previous live births, with a mistimed or unwanted pregnancy, or with late recognition of pregnancy (nine weeks or more), had significantly increased risk of late or no care (Table 3). Women who did not recognize they were pregnant until at least nine weeks had an 11-fold risk of late or no prenatal care relative to women who recognized their pregnancy within the first five weeks. Women with unwanted pregnancies were more than twice as likely not to initiate prenatal care in the first trimester relative to women having intended pregnancies. For race and geographic area, differences in early initiation were not found when multiple factors were examined simultaneously (Table 3).

Barriers to Early Access

Statewide, 21.7% of women reported that they did not get prenatal care as early as they wanted. For women whose prenatal care was paid by Medicaid, almost one-third (32.9%) reported that they did not get prenatal care as early as they wanted (Table 4). For women who did not obtain prenatal care as early as they wanted, the inability to find a physician or get an earlier appointment was reported as the single largest barrier to obtaining early care. Over half (51.2%) of those with private or group insurance reported a delay in prenatal care entry because they could not get an earlier appointment or could not find a provider, compared to 36.2% of women who were assisted by Medicaid and 38.7% of those receiving IHS financial support.

The second most significant barrier to care was not having enough money or insurance (25.8%). Women whose prenatal care was supported by Medicaid were 2.5 times more likely to report not enough money or insurance than women who used private or group insurance to pay for their prenatal care.

Failure to recognize pregnancy was one of the major barriers, regardless of payor source (23.7%). Lack of transportation was cited by 11.9% of all

women, 15.6% of Medicaid women, and 20.5% of women receiving IHS-financed services.

Improving the rate of women receiving first trimester prenatal care may also be affected by additional factors not listed in Table 4. Nearly half (44.3%) of the women who did not receive first trimester prenatal care said they got into care as early as they wanted (39.3% said they received care early enough and 5.0% said they did not want care (Fig. 1).

Comments/Recommendations

This study found that women's age, education, marital status, source of family income, parity, intention of pregnancy, and timing of pregnancy recognition are associated with late or no care. The results indicate that more timely initiation occurred among older women and women with intended pregnancies. This provides additional evidence that policies and programs should place a high priority on reducing teen births and preventing unintended (mistimed or unwanted) pregnancy.

Obstetric care providers should be aware that a major reason for lack of earlier prenatal care is that pregnant women may not be able to get an earlier appointment. Although system problems such as delays in eligibility processing may, in part, be blamed for women receiving Medicaid or IHS prenatal support, questions still remain as to why such a large proportion (51.7%) of those with private or group insurance were not able to access care as early as they wanted.

Almost one-third (31.0%) of Medicaid enrollees who did not enter prenatal care as early as they wanted reported "no money/insurance" as a barrier to early access. This strongly suggests that presumptive eligibility should routinely be available and application procedures streamlined. Piper (1994) demonstrated that once barriers to prenatal care, including bureaucratic ones, are removed, low-income women will seek care earlier and more frequently.[7]

Almost one-fourth (23.7%) of women who did not get care as early as they wanted reported they did not know they were pregnant. This demonstrates the need for educational programs to teach

PRAMS is a population-based survey of Oklahoma women with a recent delivery. Analysis weights were applied to adjust for selction probability and non-response. By using weighted analysis, researchers can make strong statements about the preconception and perinatal periods for the entire population of women in Oklahoma delivering a live birth. Thus, state-specific decisions on policy and program development can be made. A stratified systemic sampling approach is used to selcet approximately 200 new mothers each month from the state's live birth registry. Up to three mailed questionnaires are used to solicit a response. Telephone interviews are attempted for non-respondents. Data for this report reflect live births occurring between April 1988 and March 1994. The response rate was 70%. The analysis includes information collected from 9,906 mothers. All data represent state estimates.

Table 3. Logistic Regression: Variables Affecting Initiation of Prenatal Care

Variables	Crude OR	95% CL	Adjusted OR	95% CI
Age				
<20	5.2	(3.8-7.1)	2.1	(1.3-3.5)
20-24	2.4	(1.8-3.2)	1.5	(0.97-2.2)
25-29	1.5	(1.1-2.0)	1.5	(1.01-2.3)
30-34	1.0		1.0	
35+	1.6	(1.0-2.5)	1.1	(0.6-1.9)
Education				
<12	8.2	(5.6-11.9)	2.0	(1.2.-3.4)
12-15	4.0	(2.9-5.6)	1.8	(1.2-2.8)
16+	1.0		1.0	
Race				
African American	2.2	(1.6-2.9)	0.9	(0.6-1.4)
Native American	1.6	(1.2-2.1)	1.1	(0.8-1.6)
White/Other	1.0		1.0	
Marital Status				
Unmarried	3.5	(2.9-4.1)	1.7	(1.3-2.3)
Married	1.0		1.0	
Source of Family Income				
Welfare	3.1	(2.5-3.7)	1.5	(1.1-2.0)
Job/Business/Other	1.0		1.0	
Geographic Area				
Rural	1.3	(1.1-1.6)	1.0	(0.8-1.3)
Urban	1.0		1.0	
Previous Live Births				
<Three	1.0*		1.0	
Three	1.7	(1.2-2.4)	2.2	(1.4-3.7)
Four or more	2.6	(1.6-4.0)	2.6	(1.4-4.8)
Pregnancy Intention				
Intended	1.0		1.0	
Mistimed	2.7	(2.2-3.3)	1.4	(1.1-1.8)
Unwanted	4.7	(3.7-6.1)	2.1	(1.5-3.0)
Smoking 3 Months Before Pregnancy				
Yes	1.7	(1.4-2.0)	1.3	(0.98-1.6)
No	1.0		1.0	
Recognition of Pregnancy				
< 5 weeks	1.0		1.0	
5-8 weeks	1.6	(1.2-2.1)	1.5	(1.04-2.0)
9+ weeks	14.9	(11.1-20.0)	11.0	(7.9-15.4)

Note. The adjusted odds ratios for each variable were calculated on the contribution of all other variables in this table.

Table 4. Percent Not Receiving Prenatal Care as Early as Wanted and Major Barriers

	State Total	Pvt/Grp Insurance	Medicaid	IHS
Did not receive PNC as early as wanted	21.7	13.8	32.9	21.7
Reasons why no PNC as early as wanted[a]:				
No provider/appt.	39.7	51.2	36.2	38.7
No money/insurance	25.8	12.6	31.0	8.2
Did not know of pregnancy	23.7	26.0	21.5	27.6
No transportation	11.9	2.2	15.8	20.5
Did not know where to go	8.0	2.9	9.5	4.6

a Among women who did not enter prenatal care as early as wanted

women how to recognize the signs and symptoms of pregnancy and the importance of early and regto be initiated to identify women in need of prenatal care and refer them to appropriate services. Particular emphasis should be placed on developing community capacity to link women with needed services. Specific attention should be given to the uninsured population as well as providing information to Medicaid eligibles on how to enroll in health plans and how to access needed services. ℣

References

1. Goldenberg R, Patterson E, Freese M. Maternal demographic, situational and psychosocial factors and their relationship to enrollment in prenatal care: a review of the literature. *Women & Health,* 1992;19(2-3):133-151.
2. Kogan M, Alexander G, Kotelchuck M, Nagey D. Relation of the content of prenatal care to the risk of low birth weight. *JAMA,* 1994;271 (17): 1340-1345.
3. Sable M, Stockbauer J, Schramm W, Land G. Differentiating the barriers to adequate prenatal care in Missouri, 1987-88. *Public Health Reports,* 1990;105(6):549-555.
4. McDonald T, Coburn A. Predictors of prenatal care utilization. *Soc Sci Med,* 1988;27(2):167-172.
5. Giblin P, Poland M, Ager J. Effects of social supports on attitudes, health behaviors and obtaining prenatal care. *J Community Health,* 1990;15(6): 357-568.
6. Lim-Hougberg B. Rode P, Skovitolt C, Oberg C, Berg C, Mullet S, Chol T. Barriers and motivators to prenatal care among low-income women. *Soc Sci Med,* 1990;30(4):487-495.
7. Piper J, Mitchel E, Ray W. Presumptive eligibility for pregnant Medicaid enrollees: its effects on prenatal care and perinatal outcome. *Am J Public Health* 1994;84(10):1626-1630.

Acknowledgment

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Correction

In the article "Health Maintenance Organizations in Oklahoma" by Edward N. Brandt, Jr., MD; Robert W. Broyles, PhD; and David Falcone, PhD, which appeared in Vol. 89, No. 6, June 1996, pp 197-199 of the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION, Table 5 contained some errors. The table should have appeared as follows:

Table 5. Premium to Health Care Benefit Ratios

HMO	Premiums	Health Care Benefits	Benefits/ Premiums
Pacificare	*$148.80	$119.80	0.81
Bluelincs	*129.61	112.49	0.87
Cigna	125.60	99.15	0.79
Community Care	*105.53	96.54	0.91
Prucare OKC	118.03	102.71	0.87
Prucare Tulsa	112.92	95.56	0.85

* Weighted Average of Commercial, Medicaid and Medicare Premiums

PLICO issues videotaping guidelines for hospitals and physicians

New guidelines for videotaping surgical procedures have been issued by PLICO and were detailed in the August issue of *PLICO News*.

The guidelines were issued after almost two years of study by PLICO and the Hospital Casualty Company. Increasing claims activity involving videotapes was the impetus for the study, even though the tapes are often made at the request of the hospital or physician. More frequently, however, tapes were made at the request of patients or their families, with deliveries being the most commonly taped procedure.

PLICO reviewed information from the Physician Insurers Association of America and surveyed the larger hospitals in Oklahoma before its board adopted the guidelines at its meeting on July 21. The guidelines also contain recommendations for hospitals to consider:

1. Videotaping of all surgical procedures, deliveries and cesarean sections should comply with the guidelines adopted by PLICO. Tapes of procedures such as coronary angiograms would continue to be made and stored as medical records.

2. Videotaping by family before and during delivery is prohibited. However, videotaping by family after delivery and cleanup has been completed in the patient's room is allowed. Videotaping of nursery procedures requires prior approval.

3. Videotaping of telecommunications will be used only for that purpose and then destroyed.

4. Teaching tapes, videotapes, or still pictures made for any reason or made for the physicians or institutional use will need to follow the videotaping guidelines adopted by PLICO, including informed consent. (The purpose of the teaching tapes and videotapes is to reduce morbidity and mortality and for quality assurance.)

5. Still photography—single view pictures—shall not be prohibited. Consent is required and becomes a part of the permanent medical record.

The PLICO Board of Director felt the guidelines should be made an addendum to the professional liability policy to be issued to all covered physicians in 1997. The guidelines will be presented to the state insurance commissioner as a part of the form to be used next year. In the meantime it is recommended that all PLICO-insured physicians follow the guidelines voluntarily.

The actual guidelines are published in the *PLICO News*. Questions about the guidelines should be directed to Ed Kelsay, PLICO loss prevention manager, at 405-720-9800.

American Medical Association says number of women physicians in U.S. has grown more than 425% since 1970

The number of women in medicine has skyrocketed, increasing more than 425% since 1970. In recognition of this dramatic growth in both the number and influence of women physicians, the American Medical Association has designated September as Women in Medicine Month.

"Women are succeeding in medicine and are leading the way for others to follow," said Nancy Dickey, chair of the AMA's Board of Trustees.

September marks the kick-off of the AMA's sixth annual Women in Medicine celebration, with this year's theme being "Women in Medicine: Partners in the Profession." This campaign will focus attention on obstacles that still hinder women in the profession, including the income gender gap and the complexity of balancing professional and family responsibilities.

According to the AMA's recently released *Physician Characteristics and Distribution in the U.S.*, 1995-1996 Edition, the number of women physicians increased by 6% during last year, while the number of men in the profession grew only 1%. Female physicians number 133,263, representing almost 20% of the physician population. Women now comprise 42% of medical students.

The increase in the number of women in medicine has been reflected in the AMA's membership and leadership. The AMA is the largest member organization of women physicians in the United States. Women continue to be the fastest growing segment of AMA membership. Further, women physicians currently serve on the AMA Board of Trustees; as presidents of their state, county, and specialty societies; and are setting policy for medicine in the AMA's House of Delegates. The percentage of women in the House of Delegates has more than doubled since 1990.

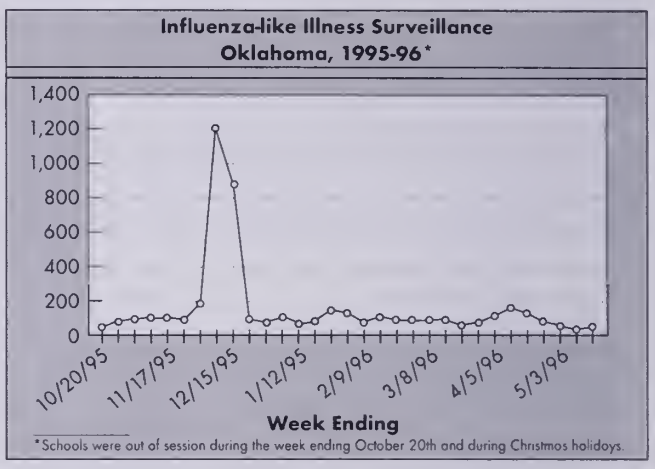
Health Department

Early influenza season expected

Physicians should be alerted that the new recommendations of the Advisory Committee on Immunization Practices (ACIP) change the time frame influenza vaccine should be administered. Due to the earlier presence of influenza during the last few years, the period for vaccine administration has been moved up to October 1. Previous recommendations of the acip have stated the best time for influenza vaccination campaigns was from mid-October through mid-November.[1]

Mirroring the pattern of influenza activity around the country, Oklahoma also experienced an earlier influenza season last year. The Oklahoma State Department of Health (OSDH) Immunization Division coordinated an active surveillance system for influenza-like illness during the 1995-96 influenza season. Participants included physicians and schools in 11 counties throughout the state (representing over 50% of Oklahoma's population). The Immunization Division contacted the participants weekly asking for numbers of cases of influenza-like illness (defined as cough and fever of at least 101 degrees without other medical explanation) seen during the previous week. This data was tabulated and analyzed by the Immunization Division. During the 1995-96 influenza season, Oklahoma's influenza-like illnesses peaked during mid-December, rather than the usual peak during January or February. The graph below depicts the number of cases of influenza-like illness reported between October 20, 1995, and May 17, 1996.

Each year Oklahoma surveillance participants, and other



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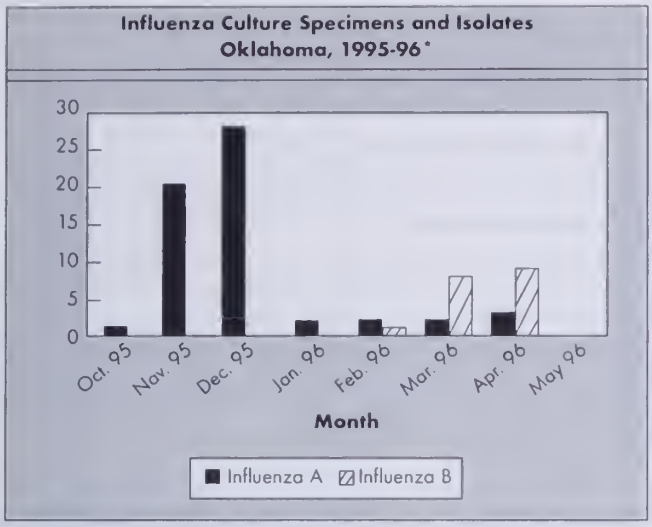


vaccine providers, are asked to submit cultures obtained from patients they suspect may have influenza to the Oklahoma State Public Health Laboratory. During the 1995-96 influenza season, cultures were submitted by vaccine providers from 13 counties. The first confirmed influenza isolate was reported on October 27, 1995, which is much earlier than in previous years. A total of 77 positive influenza cultures were submitted. The three influenza strains found to be circulating in Oklahoma during the 1995-96 influenza season were A/Texas, A/Johannesburg, and B/Beijing. The graph below depicts the results of Oklahoma's 1995-96 surveillance of influenza culture specimens and isolates.

The trivalent vaccine prepared for the 1996-97 season will include A/Texas/36/91-like (H1N1), A/Wuhan/359/95-like (H3N2), and B/Harbin/7/94-like hemagglutinin antigens.

Physicians wishing to become a participant in Oklahoma's influenza surveillance should contact Stephanie Washington with the Immunization Division at (405) 271-4073. J

Reference

1. Centers for Disease Control. Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. May 3, 1996

Deaths

John Andrew Graham, MD
1916 - 1996

OSMA Life Member John A. Graham, MD, Pauls Valley, died July 20, 1996, in Oklahoma City. Dr. Graham was born in Gibson, Iowa. Dr. Graham was educated in Iowa and earned his medical degree from the University of Iowa Medical School in 1940. He completed his internship at University Hospital in Oklahoma City. During World War II he served as a captain in the U.S. Army with the 21st Evacuation Hospital in the South Pacific. He established his medical practice in Pauls Valley in 1946, delivering as estimated 4,400 babies during his 40 years of general practice there.

(continued)

In Memoriam

1995

Yale Eugene Parkhurst, MD ..... July 27
Joe Leslie Duer, MD ..... August 25
William Earl Van Pelt, MD ..... August 26
William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Mollison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

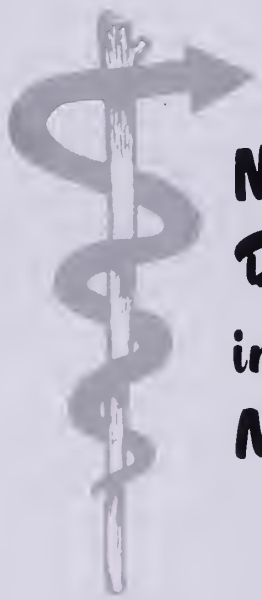
1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Ralph Richard Markland, MD ..... February 10
William Jackson Dowling, MD ..... February 13
Theodore Sherman Williams, MD ..... February 22
John Walker Johnson, Jr., MD ..... March 13
Joseph Jules Maril, MD ..... March 16
Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Hobart Curtis Sanders, MD ..... March 22
Charles Eugene Green, MD ..... March 29
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3
Marlene Marie Normand, MD ..... May 6
Henry Hubert Modrak, MD ..... May 17
James Polk Luton, MD ..... May 21
John Hartwell Dunn, MD ..... May 27
Logan Albert Spann, MD ..... June 7
Coye Willard McClure, MD ..... June 19
James Jackson Gable, Jr., MD ..... July 8
Thomas McNeil Story, MD ..... July 9
Herschel Jerome Rubin, MD ..... July 12
John Andrew Graham, MD ..... July 20
Robert Douglas Anspaugh, MD ..... July 21
Robert Moran Herlihy, MD ..... July 24
Arnold Gordon Nelson, MD ..... August 26

DEATHS (CONTINUED)

Arnold Gordon Nelson, MD
1921 - 1996

OSMA Past President Arnold G. Nelson, MD, died August 26, 1996, in Midwest City. Born in Ninnekah, Okla., Dr. Nelson served on active duty with the U.S. Navy from 1942 to 1946 before earning his medical degree at the University of Oklahoma in 1952. He practiced in Chickasha for a year before returning to Oklahoma City, where he had completed his internship. He established his general practice in Midwest City. In 1966 he served as president of the Oklahoma Academy of Family Physicians and in the following years served as a delegate to the American Academy of Family Physicians Congress of Delegates. In 1982 he was appointed to the AAFP's Commission on Membership and Member Services. Dr. Nelson was elected president of the Oklahoma County Medical Society in 1968 and later was president of the Oklahoma City Clinical Society. In 1975 he become president of the Oklahoma State Medical Association, at that time an organization with some 2500 members, and in later years represented Oklahoma as an alternate delegate to the AMA. Dr. Nelson was named a Life Member of OSMA in October 1995.



New Directions in Medicine

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CAPSULES

■ **F. Daniel Duffy, MD, Tulsa, has been appointed to the** Board of the Oklahoma Center for the Advancement of Science and Technology.

■ **McAlester's Citizen of the Year is Larry D. Lewis, MD.** The honor was bestowed by the McAlester Chamber of Commerce and Agriculture.

■ **Tulsan John C. Campbell, MD, in addition to his medical** practice, serves on the Board of Regents of Tulsa Community College.

■ **The Oklahoma Rural Health Association holds its Annual** Conference in Oklahoma City this month. Site of the September 19-20 meeting is the Clarion Hotel. For information call Val Schott, 405-271-9750.

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Classified ads are 50 cents a word, with a minimum of $25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

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During Women In Medicine Month, we gratefully acknowledge the participation and support of all our female members. The AMA now has more women physicians than any other medical association. We encourage all female physicians, residents, and medical students to become members. So please, join now. Your patients' future rights and your entire profession depend on your commitment today.

"Let's keep our commitment where our hearts are. Behind our patients."

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YES, WE CAN!

Yes, We can! is the theme chosen for the Oklahoma State Medical Association Alliance (OSMAA) this year. Yes, we can make a difference by being registered voters and support those candidates who support medicine. They need not only our vote but our financial support. Yes, we can educate our members and the people of Oklahoma, especially children, about violence prevention. Yes, we can make a difference in medical education and medical excellence by contributing to AMA-ERF.

Did you know that nationwide only 51% of the physicians and their spouses are registered voters? Recently a physician friend of mine told me he did not have time to vote in the last election and his vote really did not matter.

So I wondered, how important is one vote?

- In 1645, one vote have Oliver Cromwell control of England.
- In 1649, one vote caused Charles I of England to be executed.
- In 1776, one vote gave America the English language instead of German.
- One vote gave statehood to Texas, California, Idaho, Oregon, and Washington.
- In 1868, one vote saved President Andrew Johnson from being removed from office.
- In 1876, one vote gave Rutherford B. Hayes the presidency of the United States.
- In 1923, one vote gave Adolf Hitler leadership of the Nazi party.
- In 1941, one vote saved the Selective Service—just weeks before Pearl Harbor was attacked.

Yes, one vote is important! This is an election year and your vote might be the one that makes the difference.

Yes, we need to educate the people of Oklahoma. Twenty percent of the high school graduates in Oklahoma cannot read their diploma. Twenty-five percent of the adult population in Oklahoma does not have a high school diploma. Twenty percent of the adults in Oklahoma and America are functionally illiterate. We do have a problem. We need to teach the children to read and write and add and subtract in the elementary school years. More than 70% of the prison inmates are illiterate. It has been estimated that 90% of high school dropouts are illiterate. Seventy-five percent of the welfare mothers are illiterate. These people are not dumb, they are illiterate. They simply have not been taught. They can be taught! Every 17 hours in the state of Oklahoma a baby is born to a girl who is not old enough to get a drivers license. Last year, there were 584 child abuse cases at the Child Abuse Response and Evaluation Center in Oklahoma City. The average child served there was a 6 -year-old white female who had been sexually abused by her father. Fifty-six percent of child abuse there was sexual, while 18% was physical. Almost all of the children under the age of one were victims of physical abuse and neglect. Three of 29 infants were sexually abused. Sixty percent of the children served were Caucasian, 21% were African American, 6% Hispanic, 6% Native American, and 7% Other. Forty-seven percent of the children abused were abused by their mothers and fathers. Yes, we can educate people about violence prevention.

I am happy to report that the Alliance raised $38,579.81 for AMA-ERF last year. Ninety percent of last year's medical school class at the University of Oklahoma was on financial aid. The average cost of four years of undergraduate school and four years of medical school is about $134,000. Yes, our AMA-ERF money is used to provide excellence in medical school training and help finance the education of tomorrow's physician.

The facts are there. We as county and state alliance members have the talent, education, and desire to help our young people. Whatever the method, promoting awareness of the problem—and what can be done to help the victims is one very important step in preventing family violence. We have excellent materials and programs from the AMAA, SAVE program, Medical Alliance Month, and family violence prevention programs, to make it easy to implement programs on the county and state level.

The Alliance members will be busy and involved this year with legislation, violence prevention, and AMA-ERF. Yes, we can make a difference and Yes, we can make a healthier Oklahoma!

—Barbara Jett
President

THE LAST WORD

■ **Gary Massad, MD, Oklahoma City, serves as vice-chair** of the Oklahoma Workers Compensation Physicians Advisory Committee in addition to being a member of both the Oklahoma Council for the Prevention of Child Abuse and the Oklahoma Commission on Workers Compensation Reform.

■ **The Oklahoma Medical Political Action Committee (OMPAC)** Board of Directors met August 3 in Stroud to take its first look at this year's candidates. Members got their first look at a new ratings system that objectively tracks and ranks the voting records of state legislators. The system, developed by OSMA lobbyists Vickie Rankin and Lynne White, will help guide the OMPAC board in making decisions about campaign contributions.

"Some estimate that 85% of Oklahoma trial lawyers contribute to their PAC. Fewer than one-quarter of Oklahoma physicians are OMPAC members. This must change if the OSMA is to continue to be an influence at the state capitol," said OMPAC Chair Jay A. Gregory, MD, Muskogee.

OMPAC meetings are open to all OSMA members and while only OMPAC board members can vote, anyone can speak. Physicians wishing to join OMPAC should send their personal (not corporate) checks of $100, $200, or more to OMPAC, P.O. Box 54520, Oklahoma City, OK 73154.

■ **OU President David Boren has named Jerry B. Vannatta, MD, Oklahoma City, vice-president for health affairs** and associate provost of the University of Oklahoma Health Sciences Center. Dr. Vannatta had held the post on an interim basis since July 1, 1995.

■ **Edward N. Brandt, Jr., MD, has been named a Regents** Professor by the University of Oklahoma Board of Regents. To qualify for the honor, a nominee must "exhibit... outstanding service to the university, to the academic community, or to an academic or professional discipline through extraordinary achievement in academic or professional service." Dr. Brandt's nomination was presented by OU President David Boren after conferring with the chair of the Board of Regents, chair of the Faculty Senate, and the University Council on Faculty Awards and Honors.

A graduate of the University of Oklahoma, Dr. Brandt has served his alma mater for more than 20 years as executive dean of the College of Medicine, professor and chair of the Department of Biostatistics and Epidemiology, and professor of preventive medicine. Since 1992 he has served as professor in the Department of Health Administration and Policy in the College of Public Health and has been instrumental in the development of the Center for Health Policy Research and Development. He continues to serve as chair of the OSMA Council on State Legislation and Regulation. Dr. Brandt also has been assistant secretary of health in the U.S. Department of Health and Human Services, chancellor of the University of Maryland at Baltimore, and dean of the College of Medicine at the University of Texas Medical Center in Galveston.

■ **Tulsan James Beeson, PhD, MD, professor and chair** of ob/gyn at the OU Health Sciences Center–Tulsa, has been named "Outstanding Program Director" for the American College of Obstetricians and Gynecologists, District VIII.

■ **The 35th Annual Ob/Gyn Fall Symposium, Update 96,** "Current Trends in Obstetrics & Gynecology" will be presented October 9-11, 1996, at the Clarion Hotel in Oklahoma City. The symposium has been approved for 18 hours of Category I CME credit. The course is designed to accommodate the continuing education needs of the practicing obstetrician, gynecologist, family practitioner, resident in training, ob/gyn nurse, nurse practitioner, and physician's assistant. It will provide these professionals with innovative management plans to assess and manage a wide variety of clinical problems in the practice of obstetrics and gynecology. Registration fee is $325 for physicians and $200 for residents and fellows in training, nurses, and other health professionals. The fee includes tuition, syllabus, coffee breaks, and meal functions. Add $25 to the registration fee for registrations at the door. Fees will be refunded if a written request is received prior to the beginning of the conference. For more information, call the Office of Continuing Medical Education at 405-271-2350, fax 405-271-3087, or the Department of Obstetrics and Gynecology at 405-271-8717, fax 405-271-8547. The symposium is sponsored jointly by the Department of Obstetrics and Gynecology, University of Oklahoma College of Medicine, and the Maternal and Child Health Service, Oklahoma State Department of Health.

■ **Don Hamilton, MD, Tulsa, has been elected co-chair of** the Ambulatory Pediatrics Association, Region VII. He will serve a three-year term.

■ **The 25th Annual Irwin Brown Memorial Oklahoma** Physician's Winter Retreat will be held December 26, 1996, through January 2, 1997, at the Foxpine Inn, Copper Mountain, Colorado. The purpose of the conference is to update participants' knowledge in new developments outside the scope of their specialty but still pertinent in their role as physicians concerned with the total health of their patients. For more information, call Warren Crosby, MD, at 405-271-7449.

■ **Michael Woods, MD, has been elected vice-president** of the Oklahoma Academy of Family Physicians. Brent W. Laughlin, MD, was named president-elect. J

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OCTOBER 1996 VOL. 89, NO. 10

EDITORIAL

Leap Year Proposals 347
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE

Doctor of the Day—A Service and an Opportunity 348
D.L. Harper, Tulsa

SCIENTIFIC

Overwhelming Sepsis with *Vibrio vulnificus:* A Coastal Pathogen in Oklahoma 349
L.D. Rotz, D.P. Buckley, D.P. Fine; Oklahoma City

Prevalence of Overweight and Associated Factors Among Oklahomans 353
N. Hann, A. Asghar; Oklahoma City

LEADERS IN MEDICINE

Rayburne W. Goen, MD: Looking to the Future 363
R. Green, Oklahoma City

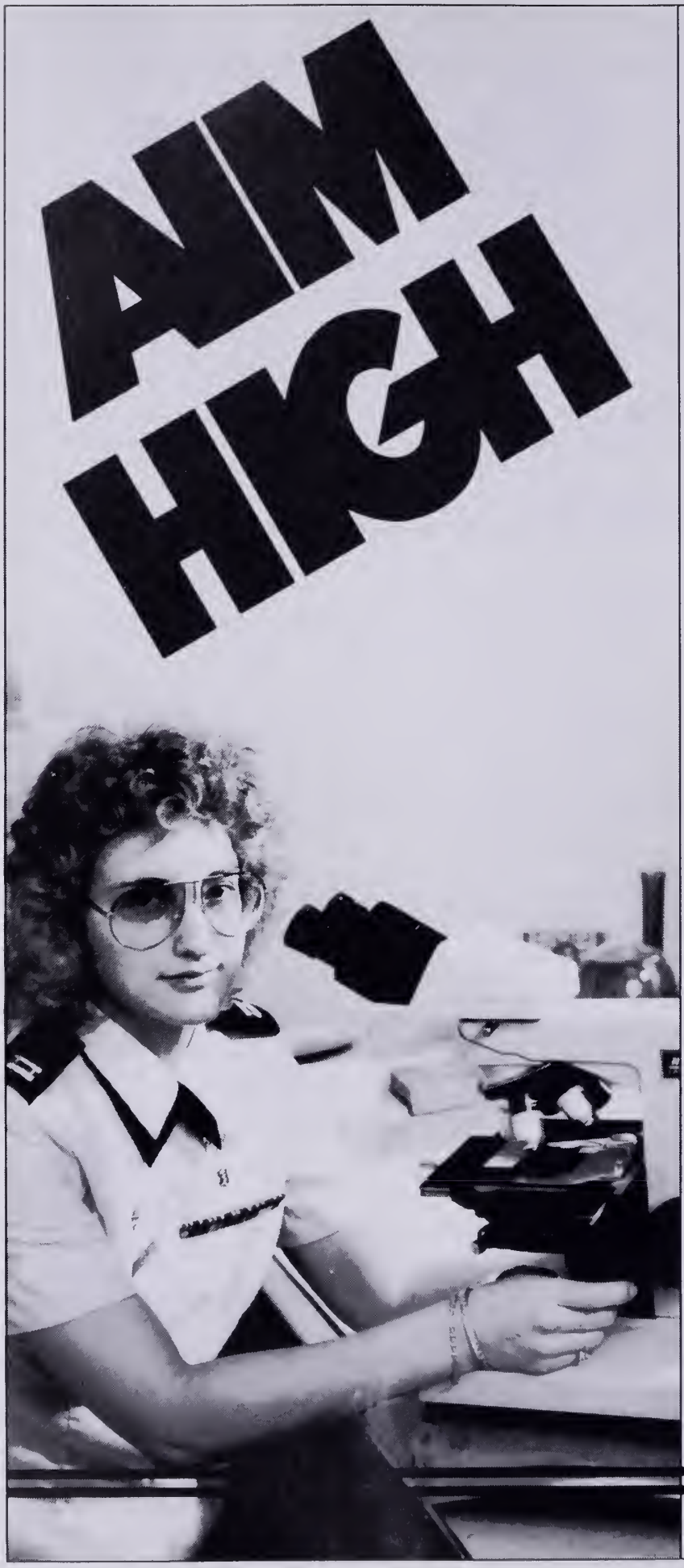
DEPARTMENTS

Health Department, 375, 377... Letters, 379... Capsules, 380... Deaths, 382... In Memoriam, 382... Alliance, 387... The Last Word, 388

ABOUT THE COVER

Rayburne W. "Tex" Goen, MD, of Tulsa, is featured this month as the JOURNAL's 32nd Leader in Medicine. He is seen here with his wife, Sally. Story on page 363.

Photograph by Robert Taylor, Oklahoma City. Art direction by Greg Gilpin, Graphic Art Center, Inc., Oklahoma City.



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AIR FORCE

Leap Year Proposals

Quadrennially, the calendar sighs, catches an extra breath, and adds the twenty-ninth of February to the year. This Leap Year with the extra day is also the year that the democratic republic of the United States of America elects a President and Vice President. The need of an extra day for political ads no doubt justifies the Leap Year selection.

The election year has now become a most important occasion in the life of the nation, as the widespread use of mass communication media has increased the intensity and leverage of the quadrennial debates. Out two-party political system long antedates the communication saturation of our voting population, but the advent of TV, radio, polls, and the World Wide Web has caused the debate subjects to change rapidly—even as the campaign progresses.

Thus we take note the communication saturation has changed our politic al discourse qualitatively, and nowadays the major candidates spend a lot of energy and advertising dollars in an attempt to "sell" themselves and their political initiatives. The public discussion of candidate characteristics and ideology now becomes obscured in a flurry of "marketing" ploys suggestive of the sale of autos or hamburgers. Our mass communications have brought us to a time when it is possible that the best candidate may be defeated at the polls by the best publicist.

A thoughtful electorate is the best antidote to the prejudicial sound bites of modern communications, and it is doubly distressing to remember how few of our U.S. citizens vote in our elections, and how many even neglect to register to vote.

In an era when many citizens question the role and limitations of government, and our health care system cries out for the manumission of patients from government programs, our society needs a President chosen thoughtfully and judiciously.

In the middle of the blizzard of political rhetoric, as we week the wisdom to vote correctly, we may choose to remember the twentieth century proverb: "Actions speak louder than words."

In any case, we all should listen, hear, THINK, and vote.

Ray V. McIntyre, M.D.

An editorial is a column of personal opinion that may or may not reflect the official position of the OSMA.

PRESIDENT'S PAGE

Doctor of the Day—A Service and an Opportunity

In the presidential letters of the past two months, I have asked all OSMA members to seriously consider becoming involved in our political and legislative process. We have stressed the importance of one-on-one grassroots involvement consisting of personal contact with your state representative and senator to establish a relationship and the ability to enter into a dialogue with them when important matters arise. We have also mentioned the importance of supporting the political agenda of organized medicine and addressed the positive changes ongoing with OMPAC. My third point is to encourage your participation in our Doctor of the Day program at the Oklahoma State Legislature.

The Doctor of the Day program has been a voluntary situation where a physician donates his or her time to spend a day at the state capitol treating emergencies and talking with legislators. It has been poorly attended and now nurse practitioners have begun offering their services (are chiropractors next?). We have been losing an excellent opportunity to represent our patients and the OSMA on a daily basis—to establish a physical presence during the legislative session. We not only have the opportunity to provide a needed service, we also have the opportunity to be a resource for needed lobbying—one on one with the legislators.

During the 1997 Legislative Session, the Doctor of the Day agenda will have a major change. The days will be divided into thirds—one-third with members from the Oklahoma County Medical Society, one-third from the Tulsa County Medical Society, and one-third from the rural medical societies. County medical societies will be asked to assign willing physicians to their days so we will be represented all the time. Any physician is still welcome to volunteer, and any volunteers will be utilized. Let's try to make this a viable program, a service and an opportunity, and take one more step in making the Oklahoma State Medical Association a legislative presence with clout.

Related picture on page 381.

David Hayes

Overwhelming Sepsis with *Vibrio vulnificus*: A Coastal Pathogen in Oklahoma

Lisa D. Ratz, MD; Dustan P. Buckley, MD; Douglas P. Fine, MD

Vibrio vulnificus has been associated with three main clinical syndromes; primary septicemia, wound infection, and gastroenteritis. This organism has increased virulence for persons with underlying medical conditions that predispose to iron overload or an impaired immune system. Since the organism proliferates more readily in warm, coastal waters, such infections are more commonly found in those regions. Infection can result from the ingestion of contaminated, undercooked seafood; contact of a wound with seawater; or a puncture wound sustained from a contaminated surface. *Vibrio* infections rarely occur in inland areas, but when they do occur, they are usually a result of the contact of wounds with contaminated, brackish water or the ingestion of raw shellfish. Because infections with this organism occur less frequently in non-coastal regions, the diagnosis may not be suspected initially in susceptible individuals and a delay of treatment may result. We present a case of *V. vulnificus* sepsis occurring in a man with underlying liver disease and a history of raw oyster consumption in Oklahoma and discuss the clinical manifestations of primary sepsis with this organism as well as prevention strategies.

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Vibrio vulnificus is a gram negative, halophilic pathogen found in a variety of environmental locations such as warmer coastal waters and brackish inland waters. It has also been isolated from marine life such as shellfish, particularly oysters and clams.[1] Currently, this organism is considered the most common cause of serious *Vibrio* illness in the United States.[2]

The clinical syndromes most often associated with *V. vulnificus* include primary septicemia and wound infections with or without secondary septicemia. Gastroenteritis alone can also be seen. The development of primary septicemia appears to be associated with underlying illnesses such as liver disease, hemochromatosis, diabetes mellitus, chronic renal disease, hematopoietic disorders, and immunosuppression. Many of these diseases predispose to iron overload or immune dysfunction, which are felt to enhance the virulence of this organism.[3-6]

Because isolation of this organism is more common in warmer waters with increased salinity, the majority of infections occur in coastal areas between the months of May and October.[7,8] Several cases, however, have been reported from inland areas in association with wound contact with stagnated water or ingestion of shellfish. In Oklahoma, five cases of *V. vulnificus* infection (current case included) have been reported over the last five years[9] [private correspondence with state epidemiologist]. The following is a case of *V. vulnificus* sepsis after the ingestion of raw oysters by a patient with cirrhosis.

Case Presentation

The patient was a 63-year-old Caucasian male who presented to the emergency room on July 4 after being found unconscious out in the sun. He had been in his usual state of health until that morning when he began complaining of fatigue and chills. He had gone outside to get warm and was reported to have been outside for approximately 30 to 60 minutes before he was found unconscious. The outside temperature was in the upper 90s. When the ambulance arrived, the patient was lethargic, hypotensive, and hyperthermic. He was given IV fluids on transport to the hospital and was alert with a blood pressure of 115/55 mmHg, a pulse of 118 bpm, and a temperature of 104.6°F on arrival at the emergency room.

He denied a history of chest pain, abdominal pain, diarrhea, nausea, vomiting, dysuria, cough, or headache. His past medical history was remarkable for alcoholic liver disease which had been stable over the past year, an appendectomy, and a cholecystectomy. The patient had abstained from alcohol use for one year prior to his admission and had stopped smoking 5 years earlier. He had no known drug allergies and was currently taking furosemide 40 mg BID, spironolactone 50 mg BID, ferrous sulfate TID, a multi-vitamin, folate, and monthly B_{12} injections.

The patient was alert on examination in the emergency room. His blood pressure had decreased to 91/44 mmHg. His pulse and temperature had also decreased to 88 bpm and 100°F, respectively. His respirations were even and unlabored. The rest of his physical exam was remarkable for dry, hot, mottled skin and dry mucous membranes. His cardiovascular, pulmonary, abdominal, and neurologic exams were otherwise unremarkable. Initial laboratory evaluation revealed a leukocyte count of 5800/µl, hemoglobin 9.4 g/dl, hematocrit 27.3%, platelets 67000/µl, sodium 132 mEq/L, potassium 4.6 mEq/L, chloride 101 mEq/L, CO_2 26 mEq/L, glucose 100 mg/dl, blood urea nitrogen 18 mg/dl, creatinine 1.5 mg/dl, calcium 8.5 mg/dl, phosphate 2.8 mg/dl, total bilirubin 2.9 mg/dl, albumin 2.9 G/dl, SGOT 104 U/L, alkaline phosphatase 133 U/L, LDH 131 U/L, uric acid 6.9 mg/dl, magnesium 1.1 mEq/L, prothrombin time 18.1, and partial thromboplastin time 34.9. The admission electrocardiogram and chest roentgenogram were normal.

In the emergency room, the patient was given intravenous normal saline and ampicillin/sulbactam 3 gm every 6 hours after urine and blood cultures were obtained. When his blood pressure continued to drop to 54/25 mmHg with only minor responses to repeated IV fluid boluses, he was started on a dopamine drip. His skin became dusky and he had a large heme-positive bowel movement. Two hours after admission to the intensive care unit, he developed a blanching, erythematous, maculopapular rash over his torso and extremities. The patient was also noted to have several urticarial lesions over his chest and shoulders. He developed worsening acidosis and was placed on norepinephrine when his systolic blood pressure fell to 70 mmHg despite maximum dopamine therapy. He was later intubated when his respiratory rate increased and he became more obtunded approximately 4 hours into hospitalization. His blood cultures were reported as growing gram negative rods from multiple samples and the antibiotic regimen was changed to aztreonam 1 gm every 8 hours and ceftazidime 2 gm every 8 hours. At this time, further history obtained from the patient's wife revealed that he had eaten raw oysters at a local restaurant on the evening prior to his illness. Doxycycline 100 mg IV every 12 hours was started. The rash became ecchymotic and nonblanchable (Fig. 1) and progressed to bullous then necrotic ulcerations (Figs. 2, 3). His blood pressure remained low despite maximal pressor support and the patient died 15 hours after his arrival at the hospital. The organism in the blood cultures was subsequently identified as *Vibrio vulnificus*.

Figure 1. Ecchymotic skin lesions on chest wall.

Discussion

Proliferation of *V. vulnificus* is highly dependent on temperature and salinity. The organism is most frequently isolated from water with a temperature above 68°F and a salinity of 0.7% to 1.6%.[6] Because of its need for warmer water, concentrations of this organism in shellfish are much higher in the summer months. More than 50% of oysters and 10% of crabs have been reported to be culture positive for *V. vulnificus* during the warmer seasons.[6,10] The highest concentrations are found in the southern Atlantic and Gulf Coast waters with the lowest concentrations found in the northern East Coast and all West Coast wa-

Figure 2. Bullous lesion on lower leg.

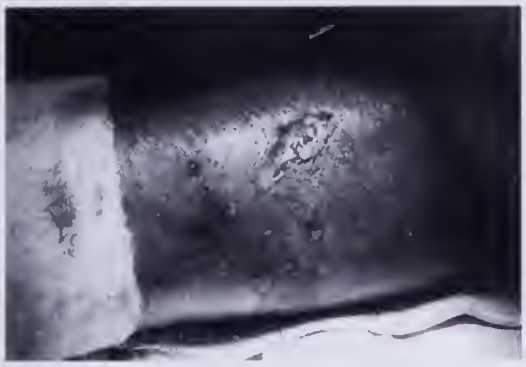

Figure 3. Necrotic ulceration on arm.

ters.[1] The organism can be killed by cooking the shellfish to an internal temperature of 85° to 90°F or by freezing.[1,6]

V. vulnificus has been reported to cause overwhelming sepsis in patients with prior liver disease, hemochromatosis, hematopoietic disorders, or other conditions of "iron overload." The increased virulence of this organism in patients with these conditions is thought to be secondary to its need for iron to enhance its growth. Studies done by Bullen et al.[3] showed that *V. vulnificus* grew readily in serum from patients with hemochromatosis or in serum from normal patients when ferric ammonium citrate or hematin was added. The growth of the organism increased markedly when the saturation of transferrin was increased from 50% to 90%. In virulence studies in rats, the median lethal dose was decreased from one million cells to just over one cell when the animals were iron loaded.[5] Decreased transferrin levels leading to an increase in saturation is thought to play a role in the virulence of this organism for alcoholics who do not have overt liver disease.[4] Increased absorption of iron due to increased gastric acid secretion in alcohol consumption may also increase iron availability for the organism.[11] However, abnormally low gastric acid level is also a risk factor for severe infection as demonstrated by the increased risk of septicemia in patients taking medications to reduce gastric acidity or in patients who have had gastric acid reducing surgeries.[8,12] Impaired immune function, particularly decreased opsonization and bactericidal activity as well as poor nutritional states, are thought to play a role in the virulence of this organism for immunocompromised hosts and patients with chronic illnesses such as diabetes mellitus and chronic renal failure.[13]

The organism produces extracellular proteases, collagenases, and elastases.[14-16] It also produces a hemolytic toxin that appears to be a major contributor to its virulence. In a study of the virulence of several strains of *V. vulnificus* by Stelma et al.[17] they found that the most virulent strains produced high titers of hemolysin, were resistant to inactivation by serum complement, produced phenolate siderophores, and utilized transferrin-bound iron.

Infection with *V. vulnificus* follows ingestion of raw seafood or contact of a wound with water that contains the organism. There have also been reports of wound infections following puncture of the skin with shellfish in seafood handlers.[18] Three of the 5 cases reported in Oklahoma occurred after the ingestion of raw oysters.[9] All three of these patients were also known to have some type of liver disease (alcoholic cirrhosis or chronic hepatitis B infection). One person also had insulin-dependent diabetes and was on long-term immunosuppression following a renal transplant in 1976. Oysters consumed by two of these patients were traced back to oyster beds in the Gulf of Mexico near the Louisiana coast and the Galveston Bay area off the coast of Texas. In two of these three reported cases, the patient died.

The route of infection in the other two cases is unknown. Infections with *V. vulnificus* may be under-represented in Oklahoma because reporting of these infections is not required in this state as it is in many coastal states.

Sepsis after ingestion of raw or undercooked seafood appears to follow translocation of the organism through the intestinal mucosa with subsequent invasion into the bloodstream.[18,19] Patients with primary septicemia typically present between 16 and 48 hours after the consumption of contaminated seafood.[2,20] Fever, malaise, and gastrointestinal symptoms are typical, but gastroenteritis may be absent. Up to one-third of patients may present in septic shock with or without disseminated intravascular coagulation.[2,13,18] Mental status changes (50%) are common as are skin lesions (61% to 70%)[2,7] which characteristically begin as urticarial plaques that progress to purpura or ecchymoses, then to bullous lesions that eventually undergo necrosis and ulceration.[20] The

organism can often be isolated from aspirates of the bullous lesions.[20,21] Leukopenia and thrombocytopenia are common.[2]

In a study of 38 patients with primary *Vibrio* sepsis in Florida,[7] poor prognostic indicators included hypotension [hypotensive patients were two times more likely to die when compared to normotensive patients (92% vs. 38%)], and leukopenia [carrying a higher mortality rate than leukocytosis (87% vs. 30%)]. Mortality also increased when the initiation of appropriate treatment was delayed. A delay of antibiotic treatment of more than 72 hours had a mortality rate of 100% as compared to a rate of 33% when therapy was initiated less than 24 hours after the onset of symptoms. Overall, the death rate approaches 50%.

Wound infections with this organism appear to have a better prognosis than does primary septicemia in otherwise healthy individuals. In the Florida study,[7] only 4 of the 17 patients with wound infections (24%) had a fatal outcome. All 4 of these patients had underlying chronic illnesses and had *V. vulnificus* isolated from their blood, while only 2 of the 13 survivors had positive blood cultures. None of the surviving patients had an underlying chronic illness.

Tetracycline or doxycycline is considered the treatment of choice for *V. vulnificus* infections.[6] Some success has been reported with third-generation cephalosporins or the combination of ampicillin with an aminoglycoside.[22] Other antibiotics that show in vitro activity against this organism include chloramphenicol, trimethoprim/sulfamethoxazole, ciprofloxacin, ofloxacin, imipenem, and piperacillin.[23] Aggressive supportive measures are necessary in patients with septic shock.

Because of the high mortality rate associated with sepsis due to *V. vulnificus*, prevention of infection with this organism is important. Susceptible individuals should be forewarned by healthcare providers of the risk posed by the ingestion of raw seafood, wound contact with contaminated salt or brackish waters, or puncture wounds from shellfish. Restaurants that serve raw seafood should also be encouraged to display signs that warn these individuals of the risk of eating uncooked seafood. Lastly, physicians in coastal as well as non-coastal regions such as Oklahoma should be suspicious of the possibility of *Vibrio* sepsis in a patient with liver disease or other predisposing underlying illnesses who presents with fever, hypotension, mental status changes, and urticarial, purpuric, or bullous skin lesions. Historical evidence of exposure should be sought, and if found, doxycycline should be added to the antibiotic regimen for treatment of possible *V. vulnificus* sepsis pending confirmation of the pathogenic organism.

References

1. Wittman RJ, Flick GJ. Microbial contamination of shellfish: prevalence, risk to human health, and control strategies. *Ann Rev Pub Health* 1995; 16: 123-140.
2. Morris JG Jr. Black RE. Cholera and other *Vibrioses* in the United States. *N Engl J Med* 1985; 312(6): 343-350.
3. Bullen JJ, Spalding PB, Ward CG, Gutteridge MC. Hemochromatosis, iron, and septicemia caused by *Vibrio*. *Arch Intern Med* 1991; 151: 1606-1609.
4. Brennt CE, Wright AC, Dutta SK, Morris JG. Growth of *Vibrio vulnuificus* in serum from alcoholics: association with high transferrin iron saturation. *J Infect Dis* 1991; 164: 1030-1031.
5. Wright AC, Simpson LM, Oliver JD. Role of iron in the pathogenesis of *Vibrio vulnificus* infections. *Infect Immun* 1981; 34: 503-507.
6. Koenig KL, Mueller J. Rose T. *Vibrio vulnificus*—hazard on the half shell. *West J Med* 1991; 155: 400-403.
7. Klontz KC, Lieb S. Schreiber M, Janowski HT, Baldy LM, Gunn RA. Syndromes of *Vibrio vulnificus* infections: clinical and epidemiologic features in Florida cases. *Ann Intern Med* 1988; 109: 318-323.
8. Levine WC, Griffin PM. Gulf Coast *Vibrio* Working Group. *Vibrio* infections on the Gulf Coast: results of first year of regional surveillance. *J Infect Dis* 1993; 167: 479-483.
9. Jorgensen DM, Quinlisk P, Zenker PN. Raw oysters and liver disease: two cases of *Vibrio* sepsis in Oklahoma. *J Okla State Med Assoc* 1991; 86: 276-278.
10. Morris JG. *Vibrio vulnificus*—new monster of the deep. *Ann Intern Med* 1988; 109: 261-263.
11. Jacobs P, Bothwell TH, Carlton RW. Role of hydrochloric acid in iron absorption. *J Appl Physiol* 1964; 19: 187-188.
12. Desenclos JA, Klontz KC, Wolfe LE, Hoecherl S. The risk of *Vibrio* illness in the Florida raw oyster eating population, 1981-1988. *Am J of Epi* 1991; 134 (3): 290-297.
13. Tacket CO, Brenner F, Blake PA. Clinical features and an epidemiologic study of *Vibrio vulnificus* infections. *J Infect Dis* 1984; 149 (4) 558-561
14. Idem. Isolation, purification, and characterization of a protease from Beneckea vulnifica (lactose-positive *Vibrio, Vibrio vulnificus*). Presented at the 81st Annual Meeting of the American Society for Microbiology, Dallas TX, March 1-6, 1981. Abstract.
15. Smith GC, Merkel JR. Collagenolytic activity of *Vibrio vulnificus:* potential contribution to its invasiveness. *Infect Immun* 1982; 35: 1155-1156.
16. Poole MD, Bowdre JH, Klapper D. Elastase produced by *Vibrio vulnificus:* in vitro and in vivo effects. Presented at the 82nd Annual Meeting of the American Society for Microbiology, Atlanta, GA, March 7-12, 1982. Abstract.
17. Stelma GN Jr, Reyes AL, Peeler JT, Johnson CH, Spaulding PL. Virulence characteristics of clinical and environmental isolates of *Vibrio vulnificus*. *Appl and Environ Microbiol* 1992; 58 (9): 2776-2782
18. Blake PA, Mershon MH, Weaver RE, et al. Disease caused by a marine *Vibrio:* clinical characteristics and epidemiology. *N Engl J Med* 1979; 300: 1.
19. Johnston JM, Becker SF, MacFarland LM. Gastroenteritis in patients with stool isolates of *Vibrio vulnificus*. *Am J Med* 1986; 80: 336-338.
20. Hoffman TJ, Nelson B. Darouiche R. Rosen T. *Vibrio vulnificus* septicemia. *Arch Intern Med* 1988; 148: 1825-1827.
21. Warnock EW, MacMath TL. Primary *Vibrio vulnificus* septicemia. *J of Emerg Med* 1993; 11: 153-156.
22. Chuang YC, Yuan CY, Liu CY, Lan CK, Huang AH *Vibrio vulnificus* infection in Taiwan: report of 28 cases and review of clinical manifestations and treatment. *Clin Infect Dis* 1992; 15: 271-276.
23. Hsueh PR, Chang JC, Chang SC, Ho SW, Hsieh WC. In vitro antimicrobial susceptibility of *Vibrio vulnificus* isolated in Taiwan. *Eur J Clin Microbiol Infect Dis* 1995; 14: 151-153.

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Prevalence of Overweight and Associated Factors Among Oklahomans

Neil Hann, MPH; Arthur Asghar, MPH

Background: Obesity amang adults in the United States has been increasing for the last three decades. Overweight is associated with numerous health risks such as diabetes, atherasclerasis, hypertension, sedentary lifestyle, etc. It alsa thraws a very heavy economic burden an saciety, estimated at $39.3 billion in 1986. **Objective:** To estimate the prevalence af abesity and its associated factars so that effarts to achieve the Healthy Oklahomans 2000 objectives may be brought inta sharper facus. **Study Design:** The study design is cross-sectional. **Methods:** The study is based on the data from the Behaviaral Risk Factor Surveillance System (a three-stage cluster sample survey) for the years 1991 through 1994. Statistical analysis was dane with SUDAAN software for camplex survey. **Results:** More than 25% af Oklahamans are overweight. Ta reach the Year 2000 objectives, a reduction of 10% in averweight will have to be achieved in about three and one-half years. Prevalence af moderate obesity among women is higher than among men. Prevalence of severe obesity is higher amang the black cammunity than among other cammunities. However, prevalence of maderate obesity is the same among blacks and whites. Severe obesity is significantly higher among those with less than a high school education than among those with college education. The prevalence of moderate obesity amang non-smakers is significantly higher than among smakers. Among the severely obese, hypertension is more than twice as prevalent as narmal blood pressure. Among the moderately obese, high blaod pressure is more than ane and one-half times mare prevalent than normal blood pressure. Obesity increases with age in a predictive manner; it draps after the age of 54. Maderate obesity is significantly higher among women wha have had a hysterectomy than those who have not had a hysterectomy. Prevalence af severe obesity as well as moderate abesity is very much higher among diabetics than amang non-diabetics. A large proportion of severely obese people are physically inactive. We did not find an assaciation between cansumption af fruits and vegetables as a part af normal diet and prevalence af obesity. **Conclusion:** Strenuaus and focused efforts need to be made amang the vulnerable groups, in view of the shart time left until year 2000, to reduce the prevalence of obesity ta the level laid down in the Year 2000 objectives.

The prevalence of obesity has been increasing in the United States for the last three decades. The age-adjusted prevalence of overweight among adults increased from about 25% in the 1970s to 33% in the period from 1988 to 1991. Between 1976 and 1991, the average weight of adults increased by about 8 pounds, and about 58 million American adults are now considered to be overweight.[1] This increase has occurred in all race and sex groups. The prevalence of over-

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Table 1. Level of Obesity

Level of Obesity	Male	Female
Level 0: Not Obese	BMI < 27.8	BMI < 27.3
Level I: Moderately Obese	BMI < 31.1	BMI < 32.3
Level II: Severely Obese	BMI ≥ 31.1	BMI ≥ 32.3

weight among children and teens has also increased substantially over the last ten years.[2]

This rising trend of obesity among adults is of serious concern to every health professional because obesity is known to be associated with numerous health conditions, such as:

- Diabetes
- Hypertension
- High blood cholesterol
- Atherosclerosis
- Coronary artery disease
- Peripheral artery disease
- Colon cancer[3]
- Sleep apnea and sleep disruption[4]

There are many causes for obesity, such as the genetic makeup of a person, dietary habits, and sedentary lifestyle. A physically inactive lifestyle is associated with numerous health risks, such as:

- Coronary artery disease
- Cerebrovascular disease
- Colorectal cancer[5]
- High blood cholesterol
- High blood pressure
- Prostate cancer[6]
- Increased all-cause mortality and coronary heart disease[7]
- Depression[8]
- Diabetes, non-insulin dependent type[9]
- Osteoporosis[10]
- Myocardial infarction[11]

Each of the two risk factors, obesity and physical inactivity, is detrimental to health; a combination of the two could have detrimental effect on health and longevity. If a person is obese and at the same time leads a sedentary lifestyle, then that person is at a high risk of developing a large number of the chronic diseases listed above. We realize that changing one's genetic makeup is impossible and modifying a dietary lifestyle is difficult for some. The easiest and the least expensive method for an obese person to reduce his/her risk of early mortality is to adopt an active lifestyle. An active lifestyle may help a person in reducing weight; however, even if an appreciable reduction in weight does not occur, a physically active lifestyle can help mitigate the numerous risks associated with obesity.

Prevalence of obesity has adverse effects not only on a person's health and well being, but also on the economic health of society as a whole. Heavy persons throw a heavy burden on society. In 1986, it was estimated that the overall costs attributable to obesity were:

> *$11.3 billion* for NIDDM, *$22.2 billion* for cardiovascular disease, *$2.4 billion* for gall bladder disease, *$1.5 billion* for hypertension, and *$1.9 billion* for breast and colon cancer. Thus a conservative estimate of the economic costs of obesity was *$39.3 billion,* or 5.5% of the cost of illness in 1986. Addition of costs due to related musculoskeletal disorders could raise this estimate to 7.8%.[12]

Ten years have passed since that estimate of the cost of obesity was made, and in the interim, both the prevalence of obesity and its cost have been rising. It is no wonder that reduction of prevalence of obesity has been enshrined in the year 2000 objectives.[13]

Purpose of Study

The purpose of our study was to assess the prevalence of obesity among Oklahomans and to identify risk factors, such as sedentary lifestyle, that are significantly associated with an overweight condition, so that efforts at achieving Oklahoma's year 2000 objective—to reduce overweight to a prevalence of no more than 15% among Oklahomans—may be more focused.

Who is overweight: a definition.— We consider a person to be overweight if (Table 1):

- the person is male and his body mass index is greater than or equal to 27.8, or
- the person is female and her body mass index is greater than or equal to 27.3.

Body mass index is easily computed using a person's height in inches and weight in pounds, as follows:

$$BMI = 705 \times \text{weight} / (\text{height} \times \text{height})$$

Methods

This study is based on the data from the Oklahoma Behavioral Risk Factor Surveillance System (BRFSS). The surveillance system is administered by all 50 states with technical guidance and financial support from the Centers for Disease Control and Prevention (CDC). The Behavioral Risk Factor Surveillance System monitors the prevalence of health behaviors and lifestyles that affect the health of the people. CDC launched the Surveillance System in 1984 in some states. The Oklahoma State Department of Health chose to start this survey in 1988.

BRFSS is a telephone-administered survey. Up

to December 1993, the interviewers used a pencil-and-paper method to record responses. Since January 1994, this survey has been conducted using a computer-aided telephone interview system (CATI).

Under BRFSS, the Oklahoma State Department of Health and the health departments of other participating states conduct monthly surveys using a questionnaire that has been standardized by the CDC. The questionnaire can be extended by adding a component which comprises state-added questions; this allows a particular state to add questions to the BRFSS questionnaire on health topics that may be of particular interest to that state or the region in which the state lies.

The response data for the state is sent to CDC for editing and weighting. It is analyzed and tabulated by CDC and returned to the state. CDC aggregates the data from all the states and publishes nationwide estimates of the prevalence of the behavioral risk factors. The edited and weighted data is then returned to the state.

In the past, the annual sample size for Oklahoma BRFSS has varied from 987 in 1988 to 1,829 in 1994 as shown in Table 2.

BRFSS uses a three-stage cluster sampling technique where the cluster is a group of telephone numbers drawn from a bank of 100 telephone numbers. We choose a sample of three adults from each cluster. BRFSS uses the Waksberg Random Digit Dialing scheme.

For this study, we used the Oklahoma BRFSS data for the years 1991 through 1994. The data were analyzed using statistical methods such as exploratory data analysis, cross-tabulation into contingency tables, and hypothesis testing using confidence intervals. Since BRFSS is a multi-stage survey, SUDAAN[14] software was used for analyzing the data from this survey.

Results

The results based on BRFSS data aggregated for the years 1991 through 1994 are given below.

Prevalence of Obesity.—The prevalence of obesity among Oklahomans is shown in Table 3 and Figure 1. About 75% of the people of Oklahoma are not obese; however, more than 25% are moderately to severely obese.

Oklahoma has drawn up a list of objectives to be achieved by the year 2000; these were published in April 1996 and are called the Healthy Oklahomans 2000 Sentinel Objectives.

The sentinel objective with regard to obesity is "to reduce overweight to a prevalence no more than 15% among Oklahomans."[14] We now have only three and one-half years before the year 2000 dawns, and by that time we need a reduction of almost 10% in the prevalence of overweight condition among Oklahomans.

Table 2. Sample Size for BRFSS, 1988-1994

1988	1989	1990	1991	1992	1993	1994
987	1172	1375	1509	1511	1509	1829

Table 3. Obesity in Oklahoma

Obesity	Level	Prevelence %
Severely Obese	Level II	8.01
Moderotely Obese	Level I	17.61
Not Obese	Level 0	74.38

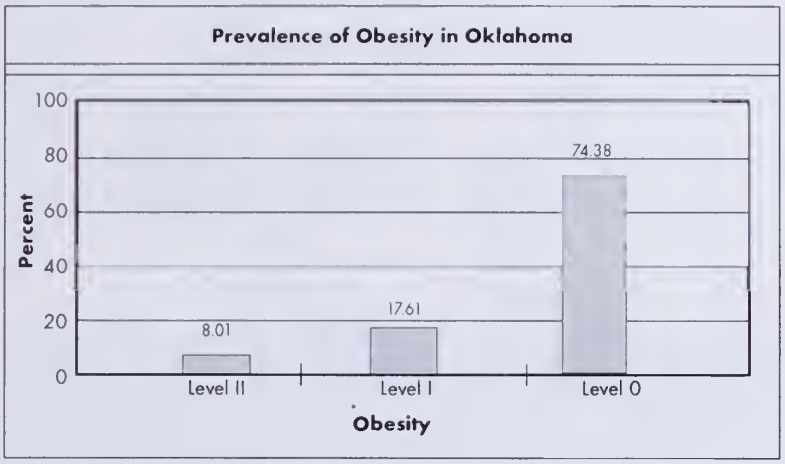

Figure 1.

This objective appears to be an extremely daunting task, considering how difficult it is for us to shed pounds and how quickly we regain those pounds![15] The lessons learned in the Minnesota Heart Health Program are relevant here. The MHHP was a 13-year research and demonstration project involving six communities that was designed to evaluate whether a sustained multicomponent education campaign could reduce population-wide risk factors for cardiovascular disease. MHHP weight control activities included:

- Adult education classes for weight control,
- Exercise, and cholesterol reduction,
- A worksite weight control program,
- A home correspondence course for weight loss, and
- A weight gain prevention program.

In separate component evaluation studies, each of the programs was shown to facilitate favorable changes in weight among individuals choosing to participate in it. Compared to more intensive interventions, weight changes produced by these methods were modest in magnitude, but the num-

ber of individuals participating in some of them was quite large. The overall effects of the MHHP program on population levels of obesity were disappointing. During seven years of intervention, there was a strong upward trend in weight in all communities, independent of age, demographics, smoking habits, or other potentially confounding variables. This trend was no different in communities receiving education than it was in comparison communities.

It is clear that to achieve this objective we must mount a serious effort to reduce the prevalence of overweight among Oklahomans.

In order for our efforts in reducing overweight to be more focused, we analyzed the factors associated with obesity. The analysis of obesity and associated factors follows.

Gender.—The estimates of prevalence as well as the 95% confidence limits are shown in Table 4 and Figure 2. It shows the relationship between gender and prevalence of obesity. The prevalence of severe obesity (i.e., Level II) is the same among men and women. This is seen by the overlapping 95% confidence intervals. However, there are more women who are moderately obese than men ($p<0.05$).

Race.— BRFSS is a telephone-administered survey and the sample that this survey picks up is predominantly white (88.7%). Minorities form a smaller portion of the sample (blacks: 5.4%; Amer. Indians: 3.9%; Asians; 0.7%) (Table 5, Fig. 3). Because of the small size for minorities, the confidence intervals are wide. Hence the conclusions drawn below regarding prevalence of obesity among minorities are to be used with caution.

Among whites, the prevalence of severe obesity is 7.59% (6.81, 8.37) (95% confidence interval) and of moderate obesity is 17.14% (16.02, 18.26).

The prevalence of severe obesity among blacks at 13.92% (9.04, 18.80) is much higher than among whites at 7.59% (6.81, 8.37), $p<0.05$, as shown by the non-overlapping 95% confidence intervals. However, there are as many moderately obese blacks as there are whites.

Education.— There is no significant difference in the prevalence of severe obesity between those who graduated from high school and those who have less than a high school education (Table 6, Fig. 4). Similarly, there is no difference in the prevalence of severe obesity between high school graduates and college graduates. However, there is a significant difference ($p<0.05$) in the prevalence of severe obesity between college graduates, 6.11% (4.56, 7.66) and those who have less than high school education, 10.70% (8.60, 12.80).

Although the prevalence of moderate obesity reduces with education, we did not find any sig-

Table 4. Prevalence of Obesity by Gender

Gender	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Male	8.38	15.89	75.73
Female	7.66	19.24	73.10

Figure 2.

Table 5. Prevalence of Obesity by Race

Race	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
White	7.59	17.14	75.27
Black	13.92	19.43	66.65
Asian/Pacific Islander	2.79	3.71	93.50
American Indian	8.99	23.05	67.96
Other	6.51	24.78	68.71

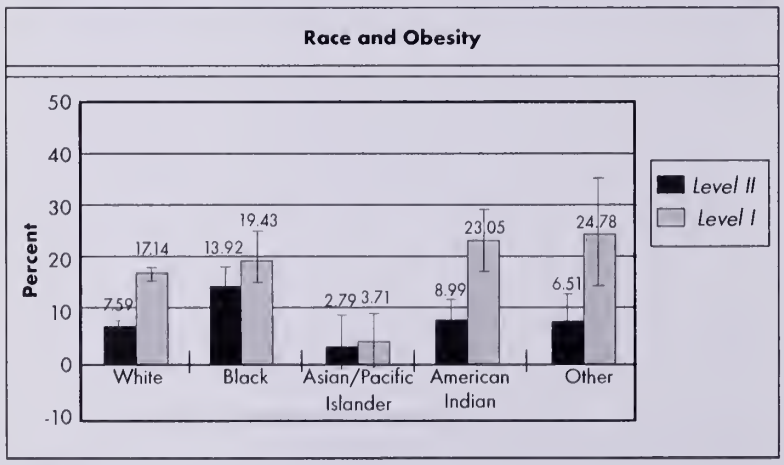

Figure 3.

nificant difference in prevalence among the various levels of education.

Smoking Status.— *Current regular smoker:* We classified a person as a current regular smoker if the response was "yes" to these two questions: (1) Have you smoked at least 100 cigarettes in your entire life? (2) Do you smoke cigarettes now?

Smoking status and level of obesity are cross-classified and shown in Table 7.

The prevalence of severe obesity is not significantly higher among nonsmokers ($p<0.05$) than among smokers. However, the prevalence of moderate obesity among nonsmokers is much higher than among smokers ($p<0.05$).

Some smokers are afraid to give up smoking for fear of gaining weight. Some high school students begin smoking as a measure to reduce weight. We referred to this practice in one of our earlier studies.[16] The fear of gaining weight as a result of giving up smoking is *not unfounded.* A study of the influence of smoking cessation on prevalence of overweight showed that:

> "...the weight gain over a 10-year period that was associated with the cessation of smoking (i.e., the gain among smokers who quit that was in excess of the gain among continuing smokers) was 4.4 kg *(9.7 pounds)* for men and 5.0 kg *(11 pounds)* for women. Smokers who had quit within the past 10 years were significantly more likely than respondents who had never smoked to become overweight (odds ratios, 2.4 for men and 2.0 for women). For men, about a quarter (2.3 of 9.6 percentage points) and for women, about a sixth (1.3 of 8.9 percentage points) of the increase in the prevalence of overweight could be attributed to smoking cessation within the past 10 years. The authors of this study concluded that although health benefits of smoking cessation are undeniable, *smoking cessation may nevertheless be associated with a small increase in the prevalence of overweight.*" (emphasis added)[17]

A modest weight gain as a result of smoking cessation poses a far less danger to health than smoking, and the effects of this weight gain could easily be countered by adopting an active physical lifestyle coupled with changes in dietary intake. Health educators may like to heed this issue as they strive to reduce prevalence of overweight.

Hypertensive Status.— We classified as "hypertensive" a person who responded "yes" to the question: Have you ever been told by a doctor, a nurse, or other health professional that you have high blood pressure?

Table 6. Education and Obesity

Education	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Less than High School	10.70	20.81	68.49
High School Graduate	7.98	17.02	75.01
College +	6.11	16.93	76.95

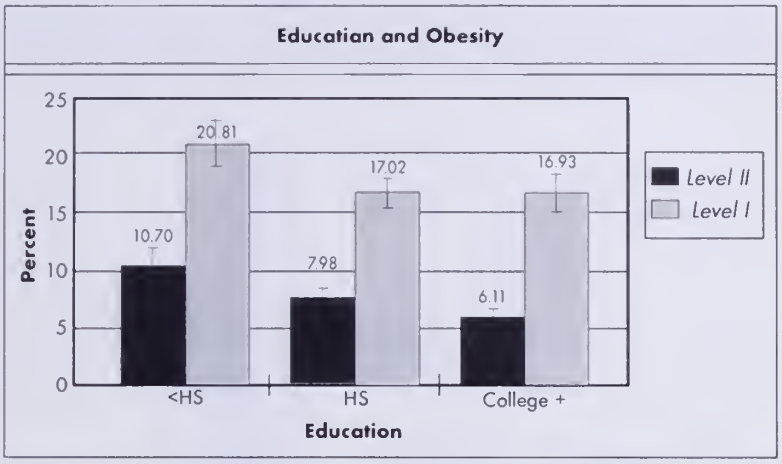

Figure 4.

Table 7. Obesity and Smoking

Current regular smoker	Severely Obese Level II	Moderately Obese Level I
Yes	7.54	13.83
No	8.20	18.93

The prevalence of obesity among hypertensives and non-hypertensive persons is shown in Table 8 and Figure 5.

Among the severely obese, high blood pressure is more than twice as prevalent as normal blood pressure ($p<0.05$). Similarly, among the moderately obese, high blood pressure is more than one and one-half times more prevalent than normal blood pressure ($p<0.05$). However, among those who are not obese, a significantly higher percentage of people have normal blood pressure than high blood pressure ($p<0.05$).

BRFSS is a cross-sectional study and we cannot make causal inferences; however, the association between obesity and hypertension is strikingly evident.

Age.— The BRFSS sample includes persons who are 18 years or older and does not include any children or teens. The distribution of obesity with age is shown in Table 9.

The prevalence of obesity increases with age, reaching a peak at age group 45 to 54. A parabolic curve fitted to the prevalence values at each age clearly shows the trend in obesity with age (Fig. 6). After age 54, the prevalence tends to taper

down, which may be the result of doctor's advice or medical intervention, to overcome the ravages of a lifetime of obesity.

Table 8. Hypertensive Status and Obesity

Hypertensive	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Yes	14.19	26.00	59.81
No	6.22	15.10	78.68

Figure 5.

Table 9. Age and Prevalence of Obesity

Age group	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
18-24	4.16	8.84	87.00
25-34	7.05	14.35	78.60
35-44	9.84	19.54	70.62
45-54	11.80	22.49	65.71
55-64	7.12	22.22	70.66
65+	6.92	18.41	74.66

Figure 6.

Obesity is associated with many chronic diseases, such as high blood pressure, diabetes, etc. The increasing trend in obesity with age is unfortunate, as obesity is not a necessary result of the process of aging but is the result of adoption of unhealthy lifestyles in most cases. Maintaining a physically active lifestyle with increasing age is extremely important in spite of the pressures of time due to job requirements, family responsibilities, etc. This needs to be emphasized as we mount our efforts through health education to achieve the year 2000 sentinel objectives.

Hysterectomy and Obesity.—Hysterectomy, in its wake, brings many changes in a women's life, some good, some adverse. Some of the adverse effects of hysterectomy are: bone loss,[18] hot flashes, weight gain, and depression.[19] We analyzed the BRFSS data to investigate the relationship, if any, between hysterectomy and an overweight condition. The results are shown in Table 10 and Figure 7.

We find that the prevalence of moderate obesity is significantly higher among those who have had a hysterectomy ($p<0.05$).

Diabetic Condition.—We classified those persons as "diabetic" who responded "yes" to the question: Have you ever been told by a doctor that you have diabetes?

The prevalence of severe obesity among diabetics is 23.61% (17.46, 29.76) and is very much higher than among non-diabetics, which is 7.26% (6.38, 8.14), $p<0.05$. Similarly, the prevalence of moderate obesity is higher among diabetics than among non-diabetics ($p<0.05$). In a cross-sectional study such as BRFSS, causation cannot be inferred; however, the relationship between diabetes and obesity appears very strong in this study (Table 11, Fig. 8).

Sedentary Lifestyle and Obesity.— A subject who reported taking physical exercise for less than 20 minutes per session at a frequency of less than three times a week was classified as having a sedentary lifestyle. The relationship of sedentary lifestyle and obesity is shown in Table 12 and Figure 9.

More severely obese persons are physically inactive, the prevalence being 9.88% (8.63, 11.13) and fewer are active, 5.63% (4.45, 6.81), $p<0.05$. However, among those who are moderately obese, there is no significant difference in the prevalence of a sedentary lifestyle. Although it is important for everyone to adopt a physically active lifestyle, it is all the more important that severely obese persons do so, preferably under medical advice and supervision.

Daily Consumption of Fruits and Vegetables.—The relationship between consumption of

fruits and vegetables and obesity is shown in Table 13 and Figure 10.

A vegetarian diet has a positive effect on various risk factors for disease: these include usually *lower average body weight*, lower total and LDL cholesterol levels, and lower blood pressure.[20] However, the effect on obesity of consumption of fruits and vegetables as a part of a non-vegetarian diet is not known. From the data gathered on consumption of fruits and vegetables, we could not draw any definite conclusions with regard to obesity, since a large number of people were either unsure of their consumption of fruits and vegetables or refused to answer this question. However, the overlapping confidence intervals lead us to believe that the association, positive or negative, between obesity and consumption of fruits and vegetables as a part of the usual non-vegetarian diet is at best weak.

Discussion

We see that more women than men are severely obese. For men, severe obesity implies a BMI exceeding 31.1, whereas women are classified as severely obese when BMI exceeds 32.3. Since more women are obese than men, special efforts must be targeted toward women to achieve lower prevalence of overweight.

Although minorities do not comprise a large proportion of the BRFSS sample, with the data we had, we found a higher prevalence of overweight in the minorities (except Asian) and we suggest that special efforts be made to reach the members of the minority communities, especially women, for achieving the weight-reduction objective.

Reduction of smoking, especially among women of child-bearing age, is extremely important. But, as we mentioned above, a reduction in the rates of smoking may lead to an increase in the prevalence of overweight. Special efforts should ensure that ex-smokers adopt a more healthy lifestyle, including regular exercise and healthy eating habits. Health professionals, especially health educators, should plan their intervention efforts accordingly.

Overweight is definitely associated with hypertension which, in turn, can cause numerous chronic diseases. Reduction of overweight could be beneficial in many ways, especially to hypertensives, and they need to be targeted for weight reduction efforts.

Age is unquestioningly assumed to be a risk factor for obesity, but this need not be so. Unless a pathological condition exists, increase of weight is not something that happens naturally. Inherent acceptance of increasing weight with age needs

Table 10. Hysterectomy and Obesity

Hysterectomy	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Yes	8.83	24.52	66.65
No	7.07	16.70	76.23

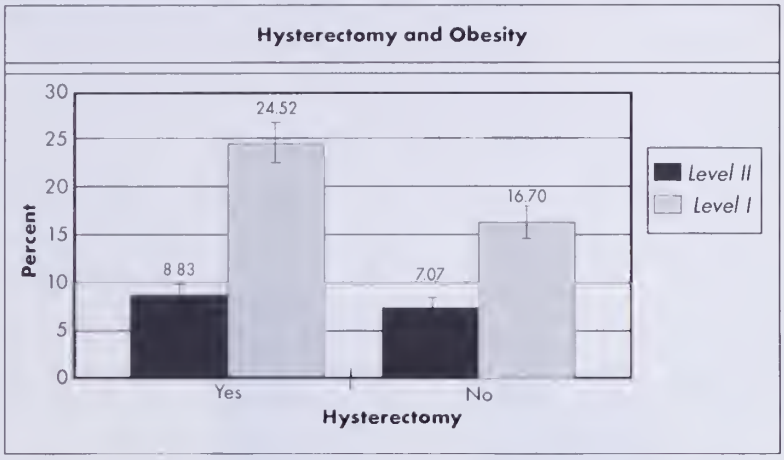

Figure 7.

Table 11. Diabetes and Obesity

Diabetic	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Yes	23.61	27.61	48.78
No	7.26	17.49	75.25

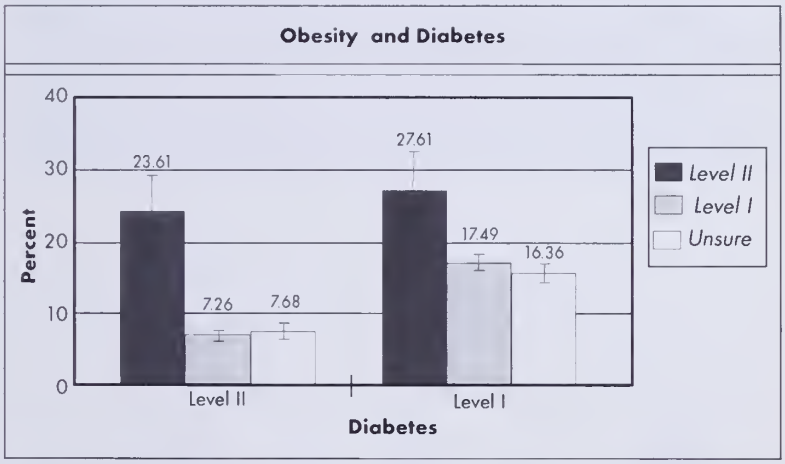

Figure 8.

Table 12. Sedentary Lifestyle and Obesity

Sedentary Lifestyle	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Yes	9.88	17.65	72.47
No	5.63	15.93	78.44

to be challenged. With most persons, weight can be kept at a healthy level with proper care in adopting an active physical lifestyle and good eating habits, thereby avoiding the nocuous effects of overweight as a person ages.

We did not find any association between hysterectomy and severe obesity; however, we did find a significant difference in the prevalence of moderate obesity among those women who have had a hysterectomy.

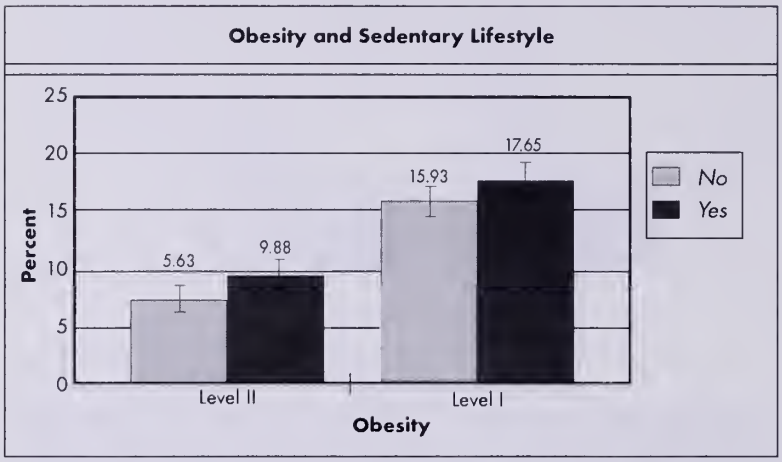

Figure 9.

Table 13. Consumption of Fruits and Vegetables and Obesity

Servings Per Day	Severely Obese Level II	Moderately Obese Level I	Not Obese Level 0
Never/less than one	18.51	14.85	66.64
1-2 times	9.31	15.37	75.32
3-4 times	6.12	19.13	74.75
5+ times	9.01	14.45	76.54
Unknown/refused	8.03	17.85	74.12

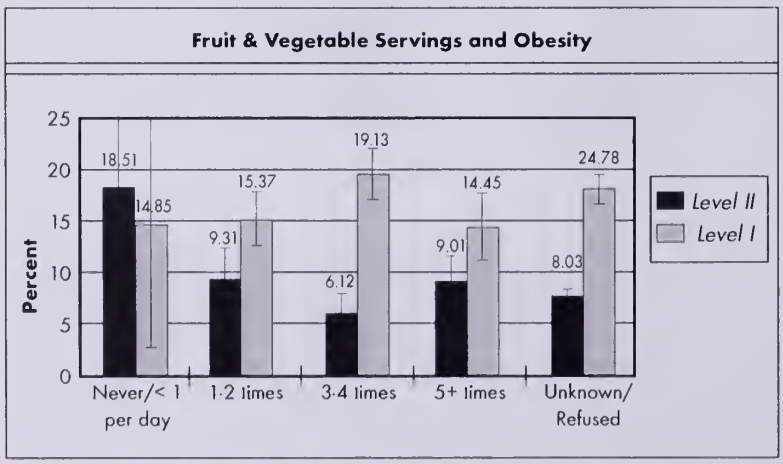

Figure 10.

Diabetes and overweight are definitely associated. Obesity can be a causative factor for diabetes and reduction in overweight can lead to a reduction of prevalence of diabetes. However, if a person is diabetic, we consider it important for him/her to make serious efforts at weight reduction under the strict supervision of his/her physician. Weight reduction can help mitigate the sequelae of diabetes.

A physically active lifestyle can be a major factor in reducing the prevalence of severe obesity. Even when it does not result in weight reduction, a physically active lifestyle has many benefits and can help us ward off many chronic diseases.

We found no association between consumption of fruits and vegetables and overweight condition. Perhaps, with additional data, clearer associations may emerge.

Conclusion

It is well known that obesity is associated with many risk factors; we have attempted to investigate the relationship between these risk factors and obesity. Among the risk factors, a sedentary lifestyle is perhaps the most easily modifiable one and an active lifestyle can confer numerous benefits on those who take even moderate amounts of exercise. The most deadly duo is a physically inactive lifestyle and obesity. It is unfortunate that the prevalence of physical inactivity among severely obese persons is high. We feel that, in addition to modifying other risk factors, weight reduction and leading a physically active life are the two most important steps for preventing chronic disease.

The data for Oklahoma paint a picture that should lead to urgent action on the part of all health professionals.

The next millennium will dawn after three and one-half years (a short time for modifying risk factors in communities) and we still have a long way to go. J

References

1. Kuczmarski RJ et al. Increasing prevalence of overweight among U.S. adults: the National Health and Nutrition Examination Surveys, 1960-1991. *JAMA* 1994;272:205-211.
2. Troiano RP, Flegal KM, et al. Overweight prevalence and trends for children and adolescents: the NHANES, 1963-1991. Archives of Pediatrics and Adolescent Medicine 1995;149:1085-1091.
3. Lee IM, Paffenbarger RS Jr. Quetelet's index and risk of colon cancer in college alumni. *Journal of the National Cancer Institute.* 84(17):1326-1331.
4. Vgontzas AN, Tan TL, et al. Sleep apnea and sleep disruption in obese patients. *Archives of Internal Medicine.* Aug. 8, 1994; 154(15):1705-1711.
5. Sternfeld B. Cancer and the protective effect of physical activity: the epidemiological evidence. *Medicine & Science in Sports & Exercise.* Nov. 1992; 24(11): 1195-1209.
6. Lee IM, Paffenbarger RS Jr., Hsieh CC. Physical activity and risk of prostatic cancer among college alumni. *Amer. Journal of Epidemiology.* Jan 15 1992; 135(2):169-179.

7. Lee IM, Paffenharger RS Jr. Quetelet's index and risk of colon cancer in college alumni. *Journal of the National Cancer Institute*. Sept 2, 1992; 84(17):1326-1331.
8. Paffenharger RS Jr., Lee IM, Leung R. Physical activity and personal characteristics associated with depression and suicide in American college men. *Acta Psychiatrica Scandinavica, Supplementum*. 1994; 377:16-22.
9. Helmrich SP, Ragland DR, Paffenharger RS Jr. Prevention of non-insulin-dependent diabetes mellitus with physical exercise. *Medicine & Science in Sports & Exercise*. Jul 1994, 26(7):824-830.
10. American College of Sports Medicine. ACSM position stand on osteoporosis and exercise. *Medicine & Science in Sports & Exercise*. Apr 1995; 27(4): i-vii.
11. O'Connor GT, Hennekens CH, et al. Physical exercise and reduced risk of nonfatal myocardial infarction. *American Journal of Epidemiology*. Dec 1, 1995; 142(11): 1147-1156.
12. Colditz GA. Economic costs of obesity. *American Journal of Clinical Nutrition*. Feb 1992; 55(2 Suppl):503S-507S.
13. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, D.C. U.S. Department of Health and Human Services, 1991. DHHS Publication PHS 91-50212.
14. Shah BV, Barnwell BG, Bieler GS (1995). *SUDAAN User's Manual: Software for Analysis of Correlated Data*, Release 6.41. Research Triangle Institute. Research Triangle Park, NC.
15. Healthy Oklahomans 2000: Sentinel Objectives. Oklahoma State Department of Health. *Creating a State of Health*. April 1996.
16. Dyer RG. Traditional treatment of obesity: does it work? *Ballieres Clinical Endocrinology and Metabolism*. 1994; 8: 661-688.
17. Hann NE, Asghar A, et al. Smoking: high hazards in high school. *Journal of the Oklahoma State Medical Association*, June 1995; 88(6): 247-251.
18. Flegal KM, Troiano RP, et al. The influence of smoking cessation on the prevalence of overweight in the United States. *New England Journal of Medicine*. Nov 2, 1995; 333(18):1165-1170.
19. Watson NR, Studd JW, Garnett T, Savvas M, Milligan P. Bone loss after hysterectomy with ovarian conservation. *Obstetrics & Gynecology*. Jul 1995; 86(1):72-77.
20. Castelo-Branco C, Pons F, Gonzalez-Merlo J. Bone mineral density in surgically postmenopausal women receiving hormonal replacement therapy as assessed by dual photon absorptiometry. *Maturitas*. Mar 1993; 16(2):133-137.
21. Carlson KJ, Miller BA, Fowler Jr. The Maine Women's Health Study: I. Outcomes of hysterectomy. *Obstetrics & Gynecology*. Apr 1994; 83(4):556-565.
22. Ritter MM, Richter WO. Effects of a vegetarian life style on health. *Fortschritte der Medizin*. June 10, 1995, 113(16):239-242.

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He didn't see then nor for decades afterward that what he had done in 1941 was the kernel of an idea with enormous potential application.

Rayburne W. Goen, MD: Looking to the Future

Story by Richard Green
Photography by Robert Taylor

Tex Goen's computer project, if marketed successfully, would streamline the world of medical records by providing a system that would drastically cut time and costs and be accessible and easy to use by all doctors, clinics, and hospitals.

After fifty years of practicing internal medicine, Rayburne "Tex" Goen retired last year and lives quite comfortably with Sally, his wife of 58 years, in one of Tulsa's fashionable and beautiful neighborhoods out near 71st and Lewis. But at age 83, he is putting the finishing touches on a project that may make him wealthy long before his life runs its natural course. (His father died at age 93 and he thinks he will live even longer.)

Not that wealth or even acclaim were his prime motives in devoting so much of his time over the last three years to the project. He already had financial security and was still practicing full time when he began entering the information into his computer. It was chiefly the challenge of the thing. You hear that word *challenge* or a variation of it over and over as Tex responds to questions about his life and times. *Fascinating* runs a close second. In this case, the "challenge" was "fascinating" in trying to meet such a crying and universal need.

Goen's project, if marketed successfully, would streamline the world of medical records by providing a system that would drastically cut time and costs and be accessible and easy to use by all doctors, clinics, and hospitals.

In a sense, his project got started way back during World War II when Lt. Goen, at Fitzsimons General Hospital in Denver, was inundated by servicemen needing histories and physicals. Since the Army demanded adequate documentation, record keeping kept him bogged down and constantly behind. Out of desperation, he developed an inspired idea. He designed a template in longhand for a normal H&P. Then, when positives turned up either on the history or through the physical, he would write them on a separate sheet. The transcriptionist used the template and Goen's notes to complete the documentation, and all he had to do then was proof the transcription. It met the Army's need and his need.

But he didn't see then nor for decades afterward that what he had done in 1941 was the kernel of an idea with enormous potential application. His system, which other doctors are pilot testing, is much more comprehensive and light years more sophisticated than his original model. Although the new system is vastly more powerful and utilitarian, encompassing not just H&Ps but the entire sphere of internal medicine, it is even easier and quicker to use. Such is often the case today when creativity and experience meet computer technology. Before he retired, his total time spent thoroughly documenting the average office visit was three minutes, five minutes for a more complicated case.

Metaphorically, Goen thinks he may be riding the crest of a wave that is breaking. Managed health care is demanding more and better documentation *and* greater speed and efficiency. He is enthusiastic about his medical records system, in part, because he is constitutionally sanguine, but not to the point of wearing blinders. As his daughters attest, he is upbeat about everything.

Despite suffering a heart attack in 1990 and having melanoma surgery the mid-1980s, he seems to be in robust good health. He acts and moves about like a man twenty or thirty years younger. Although he is of average size and build and looks nothing like LBJ, Goen's Texas drawl sounds remarkably like the former president's. And like Johnson, Goen ascended from rural poverty during America's Jazz Age.

The Leaders in Medicine biographies were begun in 1981 to recognize and honor Oklahoma's most outstanding medical doctors and their contributions to their communities and state. This story is the 32nd in that ongoing series.

***

One of Rayburne Goen's earliest's memories is of his mother's funeral. He was only 2 that day in 1916 and while he has no memory whatever of his mother, he distinctly recalls pointing out to his grandmother the flowers on the gray buggy (that contained her coffin). Nellie Tucker had married Finis Goen only two years before, a blending of his Dutch with her English background. But tuberculosis, which had claimed the life of three of her sisters, also killed her. The young couple must have been very much in love because Finis was not only devastated, he was disabled. He couldn't cope with raising his son alone and so after arranging for young Rayburne to stay with Nellie's family, he enlisted in the Army, either to get as far away as possible from the tragedy or hoping perhaps to die heroically in World War I. He eventually wound up in France, but because he was a skilled carpenter, he spent his hitch constructing airplane wings.

After a short stay with his maternal grandmother, Rayburne was delivered to his paternal grandmother, Annie Goen, a kindly and religious but tough and resilient widow, who eked out a living for herself and her grandson on a small farm near Altus. They lived alone and spent much of their time together until the boy was about 16; from her, he learned the value of integrity and hard work. Though she had not graduated from grammar school and was unpretentious and unambitious, she encouraged him to read and he began checking out library books, which he used as a means to create a fantasy life away from the drudgery of the unrelenting farm chores.

They were very poor, but at least they were in the majority in Jackson County. Although Annie Goen was a virtuous woman, she was not without weaknesses. One of them was an unrealistic fear of storms. Many was the time that she and Ray scuttled across the yard and down the old rickety stairs into a dark earthen dugout that served as a tornado shelter. They were all false alarms except once when Ray was 10. "Ray, Ray, wake up, quick, there's a storm a-comin'," she said shaking her grandson awake. They were immediately soaked and buffeted by the rain that was blowing almost sideways.

By the time Annie pulled the storm door down, water was already leaking into the dugout. Annie lit the kerosene lantern and joined Ray on the feather mattress to wait out the storm. Ray returned to sleep but was awakened by a roar that sounded just like a speeding train crossing a trestle. To his horror, Ray saw the storm door violently bouncing up and down, then he noticed that his grandmother was praying. The water was ankle deep on the dugout floor.

By the time his World War II military service ended, Tex Goen had attained the rank of lieutenant colonel.

Suddenly, the storm door was wrenched away and abruptly disappeared, taking the attached stairs with it. Rain cascaded into the dugout as Annie and Ray tried in vain to climb out. Soon the water level was hip deep and rising. The feather mattress was floating so Annie climbed on it while Ray hung on. With supreme effort, Ray managed to clamber out of the hole and pull his grandmother to safety, but she was unconscious and not breathing. He began doing a primitive form of artificial respiration he had learned in Boy Scouts, and soon she came to. At dawn, still clinging to the hump of land that formed the surface of the storm shelter, they saw that their house was gone. Amazingly, it was pretty much still intact but sitting several yards away in Turkey Creek. Later that day, their neighbors helped them pull it from the creek and anchor it to a crude foundation not far from where it had been. Life went on.

After the war, Finis returned home and by the time Ray was 12, he was spending the summers with and working for his father, who

This photo of Tex Goen was taken at the time of his graduation from medical school.

was trying to make it as a housing contractor. But the economy was bad and Finis, who was remarried to a good woman, somehow stumbled into law enforcement as the Great Depression swept across the land. In junior high, Rayburne lived with his father and stepmother in the jail in Tulia, Texas. His room was actually a jail cell. Later, he spent his final two years of high school with them. He was the class valedictorian (out of 39 students) and had become interested in a medical career, through the encouragement of Dr. McCasland, the town's dentist. Once, he arranged for Ray to watch an appendectomy performed by a physician in town, but Ray fainted and had to be dragged from the O.R. bleeding and suffering from a broken rib.

As a valedictorian in Texas, Rayburne got a full tuition scholarship and intended to matriculate to Baylor. That summer of 1931, he moved to Waco and worked for a bank collecting crops from all the failed and foreclosed-upon farms in the area. The job ended in August and since his salary had been only $1 a day, he couldn't save enough money to make ends meet and could not find another job.

Lubbock had a new state college called Texas Tech and Rayburne knew someone there who got him a job that provided room and board. With his scholarship, he enrolled and was soon settled into an ascetic routine of farm work, attending class, studying and sleeping. At school, he loved unlocking the mysteries of the sciences and when he learned that his English professor had never given any student an A, Rayburne resolved to be the first. He failed the first semester, making a B, but at the end of the second semester, his professor sadly announced that records were made to be broken and that Rayburne Goen had indeed made an A.

One of Dr. Gaen's hobbies has been the carving of miniature boats and shoes.

He accepted an invitation to visit his Aunt Eva (a sister of his mother) and Uncle Johnny in Denver that summer. While there, Christian Scientist Aunt Eva encouraged him to attend the University of Colorado in Boulder and promised to help him financially even though she understood that his ambition was to become a physician. With a transcript of nearly all A's in hand, he was granted resident status at CU and with the financial help of his aunt and uncle, he enrolled at Boulder. Following Altus and Tulia, Boulder must have seemed like the Land of Oz to Rayburne.

Shortly after arriving, he acquired a new nickname, "Tex," which has stuck for life. During his two years at CU, Tex never made anything less than an A and was selected to Phi Beta Kappa. He says he was motivated mainly out of fear, fearing that without excellent grades he would not be accepted into medical school. He worked in Boulder and Denver during the school year and on the wheat harvest in the summers.

Tex scarcely had time to get to know his roommate during his junior year. His roommate was also busy, making excellent grades and starring on the gridiron for the Golden Buffaloes, in fact, being named an All-American. It is too bad these two young men didn't have time to get to know one another better, because a mutually stimulating friendship almost surely would have developed. Goen's roommate was Byron "Whizzer" White, who was later appointed by President Kennedy to the U.S. Supreme Court.

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Tex received an application for a Rhodes Scholarship before he left the Boulder campus in 1935, but by then he had been accepted by CU's medical school in Denver. Although he still knew virtually nothing about

the life of a doctor, he was influenced by other forces and factors. For some time, he had believed (incorrectly) that if a doctor had been treating his mother in 1916 she would not have succumbed to TB. During Ray's childhood, an uncle had died from a disease diagnosed as erysipelas, a streptococcal infection. The diagnosing physician, a wealthy landowner, told the relatives that a serum might cure the man but its cost was $300, an amount totally beyond their means. While young Ray did the only thing he knew, applying cold compresses to his uncle's inflamed skin lesions, the man suffered a slow, delirious, and painful death. Ray felt very deeply the need to help people like his mother and uncle and he hated the helpless feeling of not knowing what to do. What he didn't understand growing up was that the doctors often didn't know what to do either.

Fortunately, that would begin to change dramatically before Rayburne began his practice. But during his medical school training, the art of medicine was diagnosis. That preoccupation with gathering all the details from histories and physicals, from gaining expertise in seeing, feeling, smelling, and hearing and paying attention to the patients, paid huge dividends throughout his medical career. On the first day of class, Dean Rees made a powerful speech to the class of fifty-two, one that Goen still remembers sixty years later. "From this day on, you will be expected to look and act like physicians. Confidentiality is of the utmost importance. You will see trying and very grueling things. People will die in spite of what you've done and occasionally because of what you've done."

Many of his classmates relieved tension with marathon poker games. Tex had his nose to the grindstone from Day One. "I didn't have the money to lose, and I would have felt derelict to my father and Aunt Eva, who were helping me financially, if I had been goofing off," he says. And for that matter, I wanted to read the books and see my patients." Studying obviously was not a chore, for Tex won prizes in pathology, anatomy, and surgical anatomy, and was elected to AOA. When he graduated he had the highest grade point ever earned at the medical school, despite having made a C in bacteriology. Tex cut classes and developed an attitude because he thought the professor was insufficiently serious and poorly prepared.

Clinically, Tex benefitted chiefly from Dr. James J. "Gentleman Jim" Waring, who had been a student of the great Sir William Osler at Johns Hopkins University. He was a role model par excellence because in Tex's opinion Waring had every attribute of a great physician. But he was not a surgeon and it seemed to Tex that helping patients in the 1930s was spelled s-u-r-g-e-r-y.

Still, Tex was fascinated with all the clerkships and rotations except ear, nose, and throat. The ENTs, he thought, were all "arrogant, foul-mouthed, and ineffective." As primitive as psychiatric treatment was then, some patients improved. Manics cooled down in warm baths.

Tex Goen and his sons built this family cabin on Fort Gibson Lake.

Goen, who is self-taught, enjoys playing the harmonica for relaxation.

Depressed patients generally improved following electro-shock therapy, but before muscle relaxants were available, many of them suffered cracked vertebrae or ribs. The treatment was barbaric but effective. Of the non-surgical specialties, Goen thought cardiology was the most advanced scientifically. Even then, there were a variety of instruments and techniques for detecting cardiac abnormalities.

One could often see the abnormal pulse in the jugular vein. Edema, or dropsy, could be felt; a variety of heart murmurs could be heard with a stethoscope, and myocardial infarctions and heart arrhythmias could be detected by an EKG. Enlarged hearts could be delineated on x-rays. Blood tests provided some useful information, such as the presence of bacterial endocarditis. Treatments, however, lagged years behind.

Until 1938, Tex got around by hitchhiking or using a railroad pass given to him by his Uncle Johnny. But the summer before his junior year he found a car. He had been working in a gold mine and living in a nearby mining town. One day he happened upon a 1930 Chevrolet that had been almost destroyed in a fire. While the upholstery, body, tires, and wiring had been burned, the engine and transmission appeared to be intact. Goen paid the owner $20 and then bought a battery, wiring, wire-spoke wheels, tires, and a radiator hose. His seat was a dynamite box placed across the frame and he used the metal spokes of the burned-out steering wheel as a tiller. Within two weeks Tex's transportation sputtered to life. Later, he acquired from a junk dealer a roadster body which was lowered into place on the frame. Tex painted the body fire-engine red and obtained a white canvas top. Total cost: less than $100.

Tex's wheels came just in time. He was planning to ask Sally LeMaster to marry him. He had been eyeing her—an x-ray tech at the hospital—for some time before he got up the courage to ask her for a date. The date went well; Sally was an exceptional conversationalist and was able to draw out the girl-shy and unsophisticated Tex. After several more dates, he was seeing her every day and it was clear that they were both in love. They were married between Tex's junior and senior years and soon afterward he wrote her a little poem. He has written her other poems periodically ever since, and on this past July 10, he penned another one for her on their fifty-eighth wedding anniversary.

***

Tex became Dr. Goen in 1939 and began his internship at Denver General Hospital. He had worked as an extern there during his last two years of medical school and knew that he would be free to progress at his own pace. He was thrilled to be there, learning and performing many new procedures and dealing with different people presenting challenges, mysteries, and problems. He got so carried away with the work one week that a hospital official felt constrained to ask him had he really worked 126 hours. You bet!

It was a continuous learning experience, and some of the lessons were quite galling. Some of these occasionally came in threes. In his very first rotation in the hospital's contagion ward, Goen lost a young woman to diphtheria despite treating her every two hours with antitoxin, holding her hand, reading everything he could on diphtheria in the library, and conferring with attendings. He had done everything possible but it hadn't been enough. He says for the next few days he was "depressed almost beyond endurance." Sally helped by reminding him that everybody has to die sometime and that he was not God.

But as he was starting to get his spunk back, he saw a 15-year-old girl in the emergency room who after stumbling and injuring herself had not regained the use of her legs. She also had trouble swallowing and a terrible headache. After a brief examination, he knew the girl had polio. After admitting her to the contagion ward, he went to the library and found an article reporting that large intravenous doses of vitamin C over a period of two or three days could modify the course of the disease. With the parents' permission, he began the treatment and then sat with the girl in the evening and witnessed the paralysis gradually consume her body. When she began experiencing respiratory distress, Goen prevailed on the attending, the hospital administrator, and finally the mayor of Denver to procure an iron lung. One was

obtained from Cleveland and arrived in time to save the girl's life. But Goen again had learned an important lesson the hard way; in that case, to regard with suspicion the report of any new therapy that had not been confirmed by other critical investigators.

His most painful lesson involved a taxicab driver brought to the emergency room with signs and symptoms suggesting a perforated ulcer. The resident and attending both agreed with Goen's assessment and the patient was prepared for surgery. Dr. Sawyer performed the operation and after finding no ulcer or anything else remarkable asked Goen what the x-ray had shown. "I didn't get one. He has such typical findings..."

"Get a portable chest x-ray on him after you get him out of the O.R.," Sawyer interrupted. "I think this man has pneumonia. You close him up and be thinking about what you will do if he has pneumonia." And he left the O.R. Goen's brain felt numb but somehow he got through the operation. The x-ray showed right lower lobe pneumonia, which proved to be the frequently deadly type III pneumococcus. Over the next thirty-six hours,

Dr. Goen and his wife, Sally, enjoy looking through some of their old photos.

Yet another of Goen's hobbies is raising dahlias in his backyard.

as Goen administered antiserum and glucose, he never left the man's side, glumly watching his condition deteriorate inside the oxygen tent.

The pulse speeded to 160 beats while the labored respiration began slowing... and stopped. Goen vainly attempted to bring the man back with a shot of adrenaline into the heart. When Goen told the man's wife that he had passed away, she became hysterical. He put his arms around her, not knowing what to say. Probably out of his religious faith that was fostered by Annie Goen, he said: "It was the Lord's will that your husband not live." It was such a platitude and sounded so hollow. But strangely, the remark seemed to help a little. Again, Sally helped Tex get through this tragedy. He had learned a lot but the price had been very high. The cab driver, he realized, had paid the ultimate price.

Goen knew he would never forget these early patients and indeed, when he wrote his autobiography in 1986, he described their cases in detail. Actually, a large portion of the autobiography is devoted to describing interesting or instructive cases. They seem to reflect the progress of medicine throughout Goen's career.

Even as absorbed in his internship as he had been, Goen knew by January 1941 that he would be drafted sooner or later. So he enlisted and fortunately was assigned to the Army's Fitzsimons General Hospital in Denver. He still wanted to be a surgeon, but when the hospital's commander, Colonel Wright, asked him what he'd like to do, Goen said he was at his service. "Good," Wright said, "you'll be in the medical service."

Although Goen didn't realize it then, his answer helped nail shut the door to a surgical career. He was assigned to a 200-bed TB ward and soon became proficient in administering the pneumothorax and assaying x-rays and fluoroscopy. Twenty-four days before his hitch was up, he was reading the Sunday paper when the phone rang. The caller said, "The Japs bombed Pearl Harbor. Turn on your radio."

"That's terrible," Goen said reflexively, trying to recall where or what Pearl Harbor was. He hung up the phone and told Sally; then it dawned on him, "That's us!" Then with another flash of recognition he knew that there was no sense to continue counting the days until his discharge. Although he might have felt unlucky then, as things turned out, Goen was in the right place at the right time. For he spent the next four years at Fitzsimons and when he was discharged as a lieutenant colonel, he was so well prepared in internal medicine that he took and passed his boards and orals without any studying. By then, he and Sally were raising two sons, Rayburne, Jr. (more often called Tex, Jr.), and Bill. He had wanted to practice in Denver, but the Mile-High City already had plenty of internists and more and more were streaming in. He ran into an old medical school classmate who told him that Tulsa needed doctors and that he ought to check it out.

He and Sally gathered up all their gasoline coupons and with some careful calculating decided that they could make the 1,400 mile round-trip. To save gasoline and tires, the highway speed limit was 35 m.p.h. They checked into a downtown hotel, and the next morning

the Newcomers Club called to welcome them to Tulsa. Before they left town, they had bought a house and signed a five-year lease on an office. On the long trip back to Denver, Goen mused to himself, *My God, what have we done?*

***

Tex Goen had a patient even before his office opened at Sixth and Main. The man installing his phone asked him to make a house call on his ill wife. Goen went home for lunch on his first day of practice, but he says that never happened again. From the second day on he was busy doing H&Ps ($15) on returning servicemen for the VA, seeing patients in his office ($3), making several house calls ($5) every day, and starting a pneumothorax clinic for TB patients (gratis) at a Tulsa public health clinic. But St. John Medical Center in 1946 was a closed shop to new doctors and he could not get privileges there until surgeon Hayes Yandell intervened. Goen would later become chief of the hospital's medical service and vice president of the medical staff.

When St. Francis was getting underway, he chaired the bylaws committee, was chief of the medical section, and became the hospital's third president of the medical staff. He believes he was elected because he was recognized as a problem solver and conciliator. Once at St. Francis, a surgeon had been complaining loudly, frequently, and indiscriminately about not getting any morning O.R. time. "I decided to investigate and found that the surgeon's operations were taking twice as long as his peers doing the same procedures, that the complication rate was higher, and blood loss was significantly greater during his surgeries. So I presented the evidence to him and after he calmed down, he said he had no idea he had problems. It was an educational experience that was good for him, his patients, and the hospital."

By the end of the forties, Tex and Sally decided it was time for more children. They matched their two little boys with two little girls, Becky and Deedie. The children were raised by Sally while Tex provided for them. Although he missed a lot of their sporting and school events, Sally says he at least tried to be there and managed to turn up a surprising number of times by carefully juggling his schedule. "When my patients needed

Another medical school graduation, Monte's, brought the family together for this photo. From left to right are Monte Goen, MD; Becky Goen Tisdal, MD; Rayburne W. Goen, Jr., MD; and Rayburne W. Goen, Sr., MD.

Tex and Sally Goen pause on the steps of their Tulsa home.

me, I couldn't refuse, and of course that meant that the only appointment I was ever on time for was the first one of the morning, " Tex says. "Being chronically late bothered me, but not giving my patients the time they deserved would have bothered me more."

They always had dinner together as a family and Sally and the children would wait until he was home to eat. "Then Tex would devote his time to the kids," Sally says. "He wouldn't sit down and read the paper or flip on the TV; he played with the kids. After they were getting ready for bed, he'd go make house calls or read the journals."

Early on, Tex, Jr., and Becky showed an interest in medicine and both became physicians. Tex, Jr., became one of the most respected cardiovascular surgeons in Tulsa and Becky became a radiologist practicing in Oklahoma City. "We both went into medicine because of Dad," says Becky Tisdale, who is married to radiologist Victor Tisdale. "I used to work in his office and he was so good with and to his patients. He would always touch them and listen to whatever they said. They knew he cared about them as people. He was my role model and my hero. He still is."

Many physicians his age consider the forties and fifties to be the "golden age of medicine," but he considers it to be the 1980s, when he was in his sixties and seventies. "We were still in charge of the patients' care and the insurance companies would pay everything that was reasonable. Plus, we had advanced so much technologically, and I can't underemphasize how impressive that is to someone like me who was trained in a pre-antibiotic era."

Another reason that Tex liked the 1980s best (and the 1970s second best) is that he believes he always improved as a doctor. Dr. Mike Burkey, a Tulsa internist who practiced in the same clinic as Goen during the late 1980s and 1990s, said that Tex combined the skills he learned long ago with an almost insatiable quest for new knowledge. Here he was in his seventies and was keeping up medically better than most. It's easy to get lazy, but Tex never left a stone unturned. Medicine truly interested him and the time spent with patients was no factor—almost to a fault in some cases."

Only for a brief time in the mid-1980s was his interest in his practice and patients superseded by something else. When Sally went to a genealogical conference in Washington, D.C., he decided to get a lesion on his right thigh checked out, one that he had been assiduously trying to ignore for months. A biopsy revealed it was a malignant melanoma, and when three of nine lymph nodes in the groin proved positive, Goen assumed he would soon be dying a painful, horrible death. The melanoma was surgically removed while Sally was still away. He refused to consider chemotherapy, calling it poison and useless. Then, he made plans for them to travel and "live it up" before the cancer began to consume him. At that point, he would commit suicide in some surreptitious fashion. Before Sally returned, he thought a lot about the methods, but ruled them out one by one.

He told Sally he'd had a birthmark removed

and abruptly announced that they were going to the Orient. She was suspicious but happy and they spent three weeks traveling. Tex felt full of energy on the trip and couldn't understand why. When they returned to Tulsa, Tex resumed his practice and began taking chemotherapy. He also started writing his autobiography in the evenings following his twelve-hour work days.

He completed the chemotherapy and there has been no recurrence of the cancer. He did suffer an MI one day in 1990, but he had the good sense to have the heart attack while he was working in the hospital. As a fellow of the American College of Cardiology, Goen knew what was happening to him, and as a concession to his condition, he took the elevator down to the E.R. instead of walking.

After a short recovery, Tex resumed his practice, but he realized that he wasn't having as much fun as he used to. Increasingly, in his opinion, the government and insurance companies were interfering with the practice of medicine. His patients had always been loyal to him for the conscientious and compassionate care he rendered. By the mid-1990s, some of his patients were calling to tell him that their health insurance plans were forcing them financially to see other physicians.

Although he abhorred this trend, he still maintained his lifelong constitutionally positive outlook on life. Then Sally had to have back surgery. The recovery was extended and painful, and she didn't bounce back. She had to curtail her normally busy schedule and then had to stop driving. At that point, Tex reminded Becky that he always had said that he'd quit practicing either when he thought he was starting to lose his marbles or his practice wasn't fun anymore. With that, he said he was retiring... for the latter reason. He saw his last patient in November 1995.

Tex likes to say that he didn't retire from medicine; he retired to something else. That was his newly developed automated and computerized medical records system. The basis is organizing and categorizing a lifetime of practice, and programming this into a system that is so user-friendly that it may be adapted to the physician's own preferences.

His daughter Deedie helped him program his new system. "Dad always has gotten real excited about any of his innovations. He can get just as worked up discussing one of his jerry-rigged yardwork gizmos as he can his medical record system. And I don't mean to minimize that system at all—I think it is terrific! I'm just saying that these innovations help to keep him young.

In a sense he is still much like the boy he was, living on that dirt farm with his grandma in southwestern Oklahoma. As he talks about his system, detailing the advantages, it isn't hard to picture the boy coming in from school, busting to tell Annie Goen about something new, something fascinating. J

In his backyard, Dr. Gaen admires the aldest recarded tree in Tulsa. It was once used as an anchar far a cable taal ail drilling rig.

Richard Green, an Oklahoma City-based writer, has authored the JOURNAL's Leaders in Medicine biographies since 1985.

Robert Taylor, a free-lance photographer in Oklahoma City, has been doing the accompanying photography since 1992.

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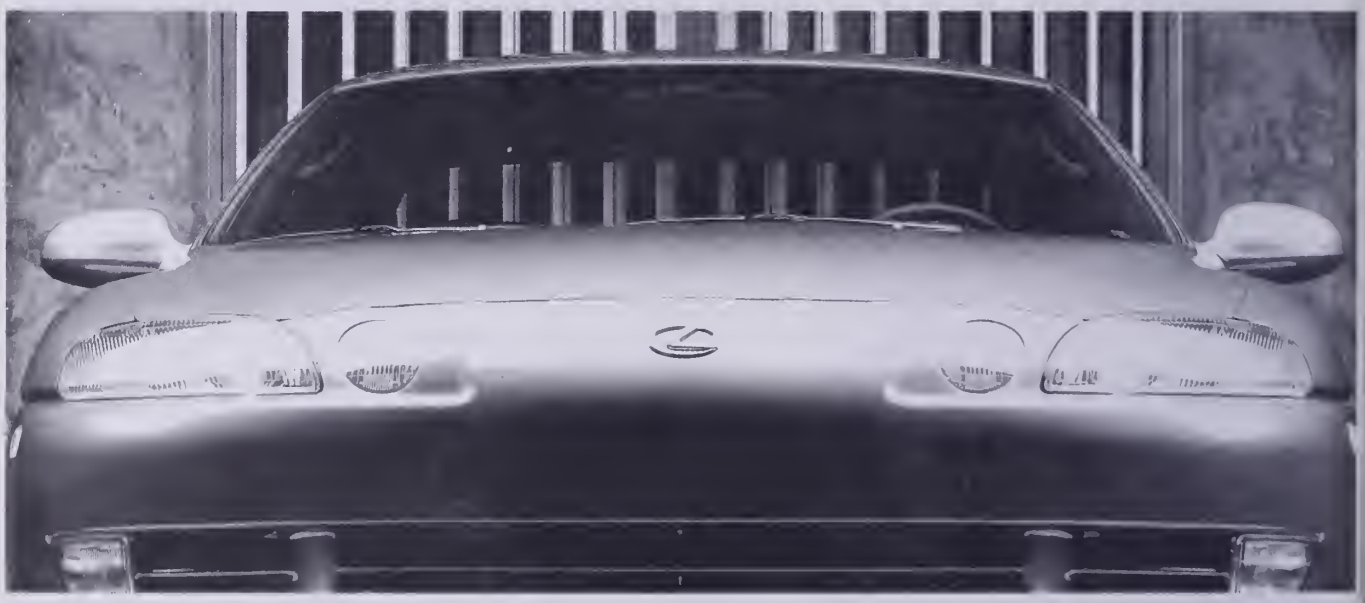

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HEALTH DEPARTMENT

Breast Cancer and Oklahoma Women

Breast cancer is the number one health problem perceived by women as documented by the Gallup poll, a national telephone survey. This same perception is common among Oklahoma women, but their demonstrated preventive health behaviors as to breast health care do not align with the perception.

Breast Health Care is defined as:

- Practicing breast self-examination (BSE) monthly,
- Having an annual clinical breast examination by a health care professional,
- When age appropriate having a mammogram at ap propriate screening intervals, and
- If finding a breast symptom, seeing your physician im mediately.

Mammography screening is an inexpensive, sensitive, and effective tool for early detection of breast cancer for women 50 years of age and older. The older the woman, the greater is the sensitivity of the mammogram. To effect and reduce breast cancer mortality, at least 80% of women age 50 and older should have a breast clinical examination and a mammogram annually. It has been estimated that 50% of deaths from breast cancer could be prevented from early detection. Nationally, 62.1% of all women age 50 years and older have had a clinical breast examination and mammogram within the past 2 years as reported by the Behavioral Risk Factor Survey.

Oklahoma utilizes several tools to measure breast health care: the Oklahoma Behavioral Risk Factor Survey, a randomized telephone survey, mammography screening rates as demonstrated by Medicare part B billing, and the Oklahoma Breast and Cervical Cancer Questionnaire, which is a mailed questionnaire.

In 1990, the Oklahoma Breast and Cervical Cancer Questionnaire and the Oklahoma Behavioral Risk Factor Survey reflected that 35.2% of Oklahoma women age 50 years and older have had a clinical breast examination and mammogram within the preceding two years. By 1995, this percentage had increased to 58%. The following chart delineates detailed screening rates by regions, meta-analysis, of the state, 1994.

Screening Behavior Rates, Breast Cancer Oklahoma Regions

1994 BRFSS

	NE	NW	SE	SW	OKC	Tulsa	State
Women age >50 who have had a CBE* & mammogram within 2 yrs	53.8%	41.1%	48.7%	51.2%	53.1%	60.4%	52.3%

* clinical breast examination by health care professional

The Oklahoma Breast and Cervical Cancer Questionnaire administered statewide, every other year, to 2,500 women age 18 years and older reflects the following breast care preventive behaviors: White women were more likely to practice breast self-examination, 51%, than non-white women or women of ethnic diversity, 42%. The higher the level of the woman's education, the more likely she was to practice breast self-examination. Of the women surveyed, some 25% saw a physician regularly. Of the group seeing a physician on a regular basis, at least annually, 84% stated that they practiced BSE bimonthly or more often. Women who never saw a physician were more likely to practice BSE only occasionally.

From this same questionnaire, data were collected about mammogram utilization. Data were collected on ethnic diversity, income, education, marital status, and ever having had a mammogram. Ethnic diversity was a factor as to mammogram utilization. Asian women had the lowest percentage, 33%, of all women ever having had a mammogram, whereas, 44% of both black and American Indian women

have ever had a mammogram. Those women whose family income was less than $15,000 annually, 33%, had the lowest percentage of having had a mammogram, whereas among women with a family income of $50,000 or more, 66% stated they had had a mammogram. Those women with less than a high school education, 59%, showed the lowest percentage of ever having had a mammogram. Single women, or 29%, were less likely to have had a mammogram than those married, widowed or divorced, 53%.

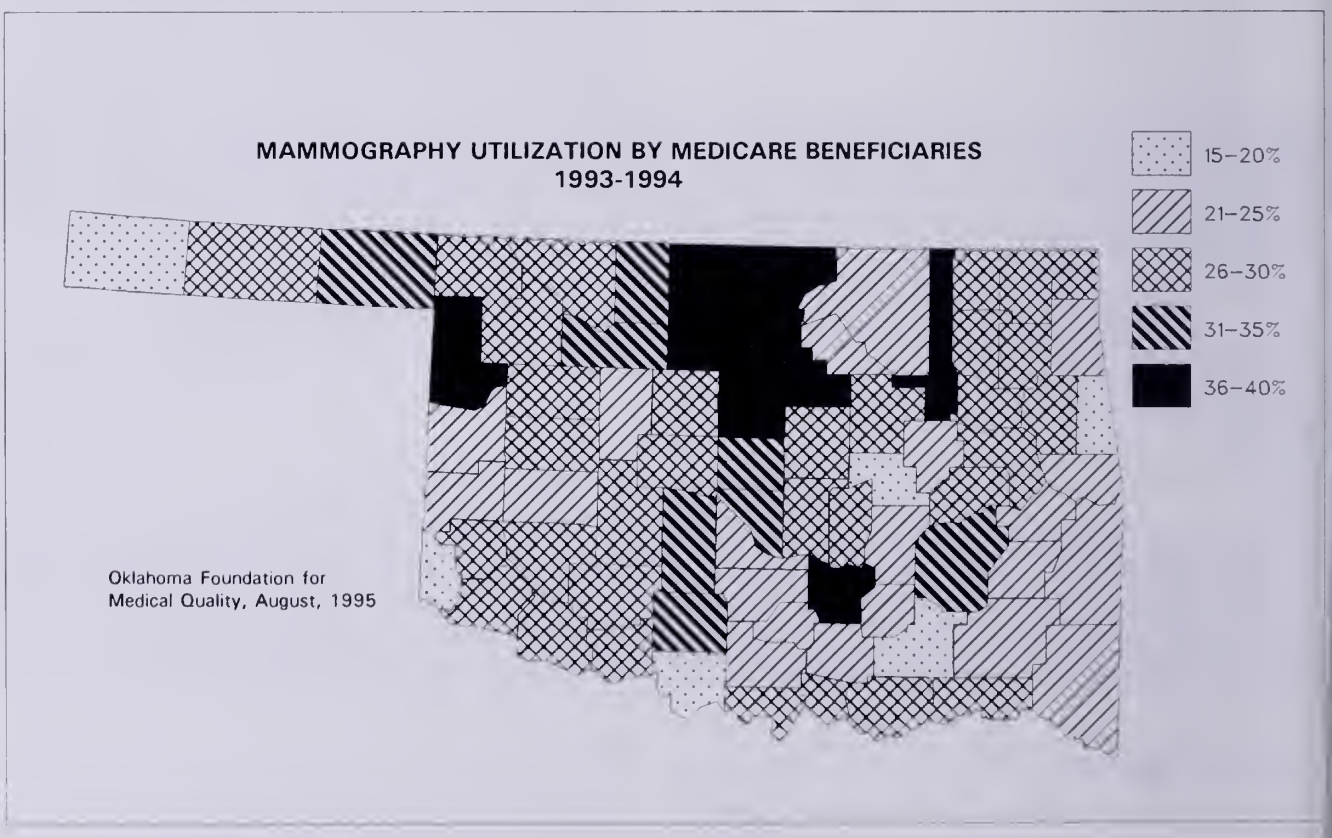
Of those women who stated they had had a mammogram, 67% stated a physician recommended the mammogram as a routine check. The physician recommendation was the number one reason for having a mammogram. Only 6% of the respondents stated the reason for the mammogram was self-prescribed.

Barriers to accessing a mammogram, according to respondents, were, in order of importance: no recommendation by their physician, didn't know the importance of having a screening mammogram, did not know where to get a quality mammogram performed, and last, financial reasons.

Data from the Health Care Financing Administration was documented by the Oklahoma Foundation for Medical Quality on the utilization of mammography by Medicare beneficiaries (see map). In Oklahoma, for 1993 and 1994 claims, only 32% of Medicare beneficiaries had at least one mammogram in the two-year time frame. This ranged from 15% to 40% based on the county of residence, as depicted by the map. Approximately half the counties had 21% to 30% of their older women screened. Only 14% of counties reached a 36% to 40% screening rate. To affect mortality, half of all women 65 years of age and older need to be screened at least every two years.

The Oklahoma State Department of Health has developed partnerships with other state organizations to promote increased breast cancer awareness and mammography utilization. Its partners include American Cancer Society, Oklahoma Unit; the Central Oklahoma Chapter of the Susan B. Komen Foundation for Breast Cancer Research; the Oklahoma chapters of American Association of Retired Persons and Association of Business and Professional Women, and the Oklahoma Foundation for Medical Quality. These partners have joined to employ all types of intervention channels to attain the goal of 80% mammography use by women 50 years of age and older.

As a physician, there are numerous opportunities to encourage and prescribe mammography. The data show the physician has the most impact in getting women to have a mammogram. The literature reflects that women, on the average, seek medical care at least four times a year. These visits are excellent opportunities to increase Oklahoma's mammography screening rates. For more information or to obtain public education materials about breast cancer, contact Adeline Yerkes, RN, MPH, at the Chronic Disease Service, Oklahoma State Department of Health, (405) 271-4072.



HEALTH DEPARTMENT

Questions About DTaP

Since the FDA licensed Connaught's acellular pertussis vaccine (brand name Tripedia) for use in infants and children two months of age and older. Following are several of the most commonly asked questions and answers about the use of the licensed diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP):

1. What is the recommendation for pertussis vaccination of children now that the FDA has licensed the Connaught DTaP vaccine (Tripedia) for use for the first four doses in the series?

The Advisory Committee on Immunization Practices (ACIP) recommends the use of DTaP vaccine for the first four doses of the routine series of vaccination against diphtheria, tetanus, and pertussis among children. The Connaught DTaP is licensed for use in children 2 months, 4 months, 6 months, and 15 to 20 months of age. The ACIP recommends the routine use of DTaP because of the reduced frequency of adverse reactions and high efficacy. During the transition period from use of whole-cell DTP to DTaP, whole-cell pertussis-containing vaccines (DTP and DTP-Hib) are acceptable for all doses in the pertussis vaccination series. A complete ACIP statement regarding recommendations for use of DTaP among infants is being developed.

2. Can the fourth dose of the Connaught DTaP (Tripedia) be given to children who are 12 months of age?

Both DTaP vaccines (Tripedia and ACEL-IMUNE) are recommended for use as a fourth dose in infants 15 months of age. In addition, children should receive the fourth dose only if at least 6 months have elapsed since receipt of the third dose.

3. Can we use the Connaught DTaP vaccine (Tripedia) we already have in stock for the fourth and fifth doses, for doses one through three?

Vaccine purchased privately and already in stock may be used for doses one through three. Vaccine supplied by the Oklahoma State Department of Health for the Vaccines for Children Program (VFC) should be used for doses four and five only. The Connaught DTaP vaccine currently available through the VFC program comes from a contract with maximums based on need for doses four and five only. Until a new contract is negotiated, not enough vaccine is available for doses one through three. The Centers for Disease Control and Prevention (CDC) hopes to conclude such a contract in the very near future.

4. How soon will children who receive their vaccinations at public clinics, or through the Vaccines for Children Program, be able to receive the Connaught DTaP (Tripedia) vaccine for the first three doses?

The CDC has begun negotiations for a new federal contract for the Connaught DTaP vaccine for doses one through three. The Connaught DTaP vaccine for these doses should be available to VFC providers and public health clinics in several months.

The CDC strongly advises that pertussis immunization of infants not be delayed until an additional supply of DTaP is available for use for the initial three doses. Providers of immunization services should continue to use existing supplies of DTP or DTP-Hib to vaccinate infants because they are at higher risk of complications or death following pertussis disease compared to older children. During 1992 and 1993, 23 deaths attributed to pertussis were reported. Twenty of these children were less than one year of age, and 18 had received no doses of pertussis vaccine. In 1995, there were more than 5,000 cases of pertussis reported in the United States.

5. Can we use the Lederle DTaP (ACEL-IMUNE) vaccine which we have for the fourth and fifth doses, for doses one through three?

No, this vaccine is not currently licensed for the initial three doses of the series, although the manufacturer is applying to FDA for approval. Because this vaccine is not yet licensed for the initial three doses of the series, the vaccine should only be used for the fourth and fifth doses in children who have already received three doses of whole-cell DTP vaccine.

6. Can the Connaught/Merieux Haemophilus influenzae type b (ActHib) vaccine be reconstituted with the Connaught DTaP (Tripedia) vaccine?

No, ActHib is currently approved by FDA for reconstitution only with Connaught whole-cell DTP vaccine, but not with DTaP vaccines. Haemophilus influenzae type b (Hib) vaccine can be given simultaneously with DTaP, but at a different site from DTaP.

7. If a child received whole-cell DTP for one or two doses, can we give the Connaught DTaP (Tripedia) for the rest of the three-dose series?

Ideally the same vaccine should be used for the three-dose series. If a child received whole-cell DTP for one or two doses, or if the type of vaccine used previously in the series is unknown or unavailable, Connaught DTaP can be given to complete the three-dose series.

8. Can the whole-cell DTP and the Connaught DTaP (Tripedia) vaccines be used interchangeably?

It is preferred to use the same vaccine for the three-dose series. Although there are no data on the effectiveness of using whole-cell DTP or acellular DTaP interchangeably for the first three doses in the series, in practice this will occur; these doses should be counted as part of the three-dose series.

9. If an infant received Lederle DTaP (ACEL-IMUNE) by mistake for dose one, two, or three, should we revaccinate?

ACEL-IMUNE is not licensed for the first three doses in the series. If children are found to have received immunizations inappropriately, actions should be undertaken to identify reasons for inappropriate vaccine use, establish procedures to assure that all children receive immunization in accordance with current recommendations, and track subsequent compliance with vaccine recommendations. However, these doses should not be repeated. The more doses of DTaP or DTP vaccine a child receives, the more likely he/she will have local reactions or fever following vac-

cination, and there is no evidence that these children are at increased risk of disease.

10. How many doses of the Connaught DTaP are needed for protection against pertussis?
Three doses are needed for protection of infants against pertussis. The protective efficacy of three doses of Connaught DTaP (Tripedia) against pertussis disease, defined as cough lasting > 21 days with culture confirmation, when administered at approximately 3, 5, and 7 months of age, was shown to be 80% (95% confidence interval: 59%-90%) in a case-control study in Germany. The fourth dose is recommended for children aged 15 months to ensure persistence of immunity through the preschool years. Protection against pertussis is unlikely following one or two doses of DTaP.

11. After a child gets four doses of the Connaught DTaP (Tripedia) vaccine, is a fifth dose recommended? Should this fifth dose be with the Lederle DTaP (ACEL-IMUNE) or Connaught DTaP vaccine?
Because sufficient data are not yet available on the safety of a fifth dose of Tripedia among children 4 to 6 years of age who have received Tripedia for the prior four doses, this vaccine is not licensed for this specific use. Additional information on the immunogenicity and safety of a fifth dose following four prior doses of the same acellular vaccine is being collected and should be available before infants started on this new schedule are 4 to 6 years age and require a fifth dose. For children who have received whole-cell DTP for the first three doses of the series, two acellular pertussis vaccines (Tripedia and ACEL-IMUNE) are already licensed for the fourth and fifth doses of the series. The fifth dose of either DTaP or DTP is not necessary if the fourth dose was given on or after the fourth birthday.

12. Are Lederle DTaP (ACEL-IMUNE) and Connaught DTaP (Tripedia) vaccines interchangeable for the fourth and fifth dose?
Yes. Any of the licensed whole-cell DTP or acellular DTaP can be used interchangeably for the fourth and fifth doses of the routine series of vaccination against diphtheria, tetanus, and pertussis among children 15 months of age who have previously received three doses of whole-cell DTP vaccine. However, data supporting this recommendation are limited.

13. Can other vaccines be given simultaneously with the Connaught DTaP (Tripedia) vaccine?
Yes, vaccines that can be given simultaneously with the Connaught DTaP vaccine, if indicated, include: oral poliovirus vaccine, inactivated poliovirus vaccine, Hib vaccines, hepatitis B vaccine, measles-mumps-rubella vaccine, varicella vaccine, and hepatitis A vaccine.

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Questions About DTaP *(cont.)*

14. If an infant received DT for one or two doses because the parent requested it, but the parent now wants the child to receive DTaP, can we administer the Connaught DTaP (Tripedia) vaccine?
Yes, the Connaught DTaP vaccine can be used following DT vaccination, ideally as a series of three or more doses. However, in general, children <7 years of age should not receive more than 6 doses of diphtheria- and tetanus-containing vaccines. Children over-immunized with diphtheria- and tetanus-containing vaccines may be more likely to have mild or severe local reactions (e.g., Arthus-type hypersensitivity reactions) following additional doses of DT-containing vaccines, including the Connaught DTaP vaccine. These children should be monitored for adverse events; if a severe local reaction occurs, further administration of DT-containing vaccines should be reconsidered.

15. If a child has a contraindication to receipt of a subsequent dose of whole-cell DTP, should the child instead receive the Connaught DTaP?
No. The contraindications for the Connaught DTaP vaccine are the same as those for the whole-cell DTP. Children who experience adverse reactions that are contraindications for subsequent doses of whole-cell DTP should not receive further vaccinations with either DTaP or DTP vaccines. These contraindications include: (1) an immediate anaphylactic reaction; and (2) encephalopathy. In such cases, DT should be administered for the remaining doses in the schedule to ensure protection against diphtheria and tetanus.

16. If a child has an adverse event following receipt of whole-cell DTP that is a precaution against receipt of a subsequent dose of whole-cell DTP, should the child instead receive the Connaught DTaP (Tripedia)?
No, not routinely. Any decision to administer subsequent doses of a pertussis-containing vaccine must be carefully considered for children who experience adverse reactions that are precautions for subsequent doses of whole-cell DTP. These precautions include: (1) temperature of 40.5°C (105°F) within 48 hours, not due to another identifiable cause; (2) collapse or shock-like state within 48 hours; (3) persistent, inconsolable crying lasting 3 hours, occurring within 48 hours; and (4) convulsions with or without fever, occurring within 3 days. In circumstances such as a high incidence of pertussis, in which the benefits of further pertussis vaccination outweigh the possible risks, DTaP should be given for the subsequent doses.

17. Can DTaP vaccines be administered to persons who are 7 years of age?
No. DTaP vaccine (Tripedia or ACELIMUNE) is currently licensed only for use in persons who are <7 years of age. Any use of DTaP vaccines among persons 7 years is investigational, and only should be done as part of a research study. Pertussis-containing vaccines are not licensed for use in persons 7 years of age.

18. Should we continue to use the current DTP vaccine information sheet (VIS)?
An interim vaccine information sheet (VIS) has been prepared that addresses use of acellular pertussis vaccine in infants. This interim VIS will be distributed to state immunization programs in the near future. Until it becomes available, the current DTP VIS should continue to be used. When programs begin to use DTaP vaccine for the first 3 doses in the series, the interim VIS should be used. An official VIS on DTP will be revised and made available as soon as possible, probably after the first of the year.

For further information contact Edd Rhoades, MD, MPH, Chief of Child Health and Guidance Service or Phyllis Brown, RN, Director of the Immunization Division at (405) 271-4073.

LETTERS

Eyesight and the Elderly

To the Editor: Your editorial "Too Many MVAs" [Aug. '96] took me back 20 years to a time when I was young, eager, naive and President of the Oklahoma State Society of Ophthalmologists. I thought that our legislators actually had the best interest of the citizens at heart.

It did not take long to lose my naivete and to realize our legislators were typical politicians whose number one priority is reelection, i.e., money. At that time, the Board of Directors of the Eye Society felt that because of the increasing number of older drivers that the citizens of Oklahoma would be best served by incorporating a vision test as part of the driver's license reexamination for all people 65 years of age or over.

It is a fact, that 30 percent of all people over 70 do not have legal driving vision because of macular degeneration and we felt that we would be doing the citizens of Oklahoma a great service.

Armed with that, we sought out the leadership of both parties to draft legislation to address this problem. We were told in no uncertain terms that old people meet, talk, write letters and vote, and for any legislator to associate him or her self with such a bill would be political suicide. So here we are 20 years later, the problem has increased because of the increased number of older citizens, and the problem continues. It would certainly be nice if the state of Oklahoma would come to grips with the situation and do this on their own as part of the Department of Motor Vehicles rather than doing what some states have done and make the ophthalmologist the bad guy for blowing the whistle on senior citizens.

I have numerous times, in my practice, felt the wrath of the partially sighted when I have sided with their children on terminating their driving. Ain't politics grand.

—Lee E. Schoeffler, MD
Tulsa

CAPSULES

■ **The American Medical Association** is reconfiguring its House of Delegates to be more representative of medicine today. A major change will be increased representation by specialty societies. Currently, all specialty societies have one vote (delegate) in the AMA House of Delegates, no matter how many members they have. In the restructured AMA House of Delegates, specialty societies will have delegates in proportion to their memberships. Since many physicians belong to several specialty societies, the AMA will send ballots in mid-October to all AMA members and fourth-year medical students asking them to select one national specialty to represent them in the AMA House of Delegates. The ballots are scheduled to be mailed during the week of October 16, 1996, with a return deadline no later than December 20, 1996. Specialty societies will be notified of their apportionment no later than January 31, 1997. AMA members also will have the opportunity to select a specialty society via a toll-free telephone number that will be included on the ballot.

■ **In September, Oklahoma State Senate** President Pro Tempore Stratton Taylor convened an interim study on managed care. This committee will meet on a regular basis. All of the meetings will be open to the public. It is likely that the interim study committee will seek input and testimony from physicians and the public regarding their experience with managed care. Physicians who can document instances in which they or their patients have been harassed or patient care has been compromised because of the rules and/or protocols of a managed care organization are asked to share them with the OSMA. Please dictate a brief synopsis of the incident and mail it to OSMA Associate Director Vickie Rankin. Indicate if you and/or your patient would be willing to testify before the interim study committee on managed care. In addition, call Ms. Rankin or OSMA Administrative Assistant Bobbie Brown to elaborate on the details of the incident if necessary. Please share this request with your members and other colleagues. Real stories told by physicians and their patients could have a profound affect on the final recommendations of the interim study group.

■ **Applications to the OU College of** Medicine have more than doubled since 1988 from 700 applicants that year to over 1,500 applicants in 1995. The average GPA of this year's freshman class is over 3.6 and MCAT scores averaged 9.6. Women make up 42% of the freshman class. Only eight students in the class are from out of state. Research funding has grown over 30% in each of the past two years. Some $50 million will come to the HSC in contracts and grants this year, more than will go to the Norman campus. A new Student Union building, complete with recre-

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ation, exercise, computer facilities, and a cafeteria, opened on the OUHSC campus in mid-September. The Student Union will be a big boost for the morale of faculty and students and allow for more interaction in a non-clinical setting.

■ **Only 14% of the operating expenses** of the University of Oklahoma College of Medicine are provided by the State of Oklahoma. The rest comes from grants, contracts and, most of all, the Physician Practice Plan. The inception of Medicaid managed care has had deleterious effects on OUHSC funding. In some instances it may cost more to treat a patient than the Medicaid reimbursement will cover. The OB service has been particularly hard hit. With more choice available to Medicaid patients, fewer pregnant woman opt to receive their prenatal care and deliver their babies at University Hospital. There appear to be only three options for future funding at OUHSC: first, and most unlikely, keep doing business as usual and hope for additional money from the State of Oklahoma; second, close the hospitals and become a community-based medical facility much like the Tulsa campus; third, find a buyer for University Hospital.

■ **SoonerCare went statewide on October 1, 1996,** for both rural and urban Medicaid AFDC beneficiaries. Medicaid beneficiaries have the month of October to change their primary care physician case manager. A 24-hour Rural Nurse Advice "800" line became operational October 1. Statewide Medicaid member orientation meetings also began October 1.

■ **With the addition of 5,500 Oklahoma** university employees, HealthChoice, the health plan offered by the Oklahoma State Employee and Education Group Insurance Board, now covers some 150,000 lives. The plan has a network of 8,000 providers.

■ **Seven members of the Oklahoma** State Medical Association (OSMA) have been appointed by Oklahoma Senate President Pro Tempore Stratton Taylor to an interim study committee on managed care. Senator Taylor announced he would form the committee when more than 80 pieces of legislation addressing managed care were introduced in the Oklahoma Legislature this year. OSMA members on the committee are Eldon V. Gibson, MD, Shawnee; C. Wallace Hooser, MD, Tulsa; John David Jennings, MD, Broken Arrow; David Kingfisher, MD, Tahlequah; Rodney Huey, MD, Tulsa; W. David Holloway, MD, Tulsa; and Raymond L. Cornelison, Jr., MD, Midwest City.

Other members of the committee are Joyce Ardrey, Broken Arrow; Ron Askcraft, Vinita; David Bickham, Edmond; Sean Burrage, University of Oklahoma President's Office, Norman; Tony Caudill, Oklahoma Foundation for Medical Quality, Oklahoma City; John Coffey, President, Oklahoma Hospital Association, Oklahoma City; Darrel Downs, Oklahoma City; Mike Duncan, University Physicians Medical Group, Oklahoma City; Patrice Dunkelgod, Sooner Start, Oklahoma City; Richard Eagleton, Tulsa; Gena Fallis, Konawa Community Health Center, Konawa; Effie Foster, Oklahoma Production Center, Tahlequah; Joe Gunn, Administrator, Craig General Hospital, Vinita; Leo Hauser, Park-Davis, Austin, TX; S. Lee Hays, DC, Tulsa; Steve Hendley, Administrator, Bass Memorial Hospital, Enid; Steven Hogg, MD, Broken Arrow; Esther Houser, DHS Aging Services Division, Oklahoma City; Claudia Kamas, Oklahoma City; Deborah Karnes, Long Term Care Authority of Tulsa, Tulsa; Robert Koch, Phillips Petroleum, Bartlesville; Michael LaPolla, Director, Health Policy Research, College of Osteopathic Medicine, Tulsa; Ronnie Martin, DO, Enid; Jim McNaughton, Prudential Healthcare, Oklahoma City; Daniel McNeill, PhD, Director, OU Physician Assistant Program, Oklahoma City; Kelly Mitchell, Sallisaw; Don Moore, Salina; Donna Neal Thomas, RNC, Executive Director, Mary Mahoney Center, Oklahoma City; Dan O'Brian, Mental Health Planning Council, Oklahoma City; Bryan Potter, Executive Director, Oklahoma Board of Pharmacy, Oklahoma City; David Pynn, President, CommunityCare, Tulsa; George Singer, Singer Brothers, Tulsa; Todd Sprague, Director of Human Resources, Helmerich & Payne, Tulsa; Dorothy Stanislaus, Claremore; DeAnn Warfel, PacifiCare, Oklahoma City; William Wilson, Jackson County Memorial Hospital, Altus; Judy Ogans, United Health Care, Oklahoma City; Ken Seidel, Executive Director, Claremore Regional Hospital, Claremore; Jack Vaughn, Johnson & Johnson, Norman; Karen Mulkey, OU College of Medicine, Tulsa; Senator Stratton Taylor, Claremore; Senator Angela Monson, Oklahoma City; Suzanne Levitt, University of Tulsa School of Law, Tulsa; and Lyn Larson, Community Service Council, Tulsa.

The committee held its first meeting on September 9.

DOCTOR OF THE DAY
Arthur H. Schipul, Jr., MD, Oklahoma City, got an unexpected surprise at the State Capitol this spring. He had a chance to meet Oklahoma's own Miss America 1996, Shawntel Smith. (related story on page 348)

Deaths

Ollie Wayne Dehart, MD
1930 - 1996

Ollie W. Dehart, MD, longtime general practitioner in Vinita, died August 28, 1996. Dr. Dehart was a Life Member of the OSMA and an associate editor of the JOURNAL. Born in Heavener, he earned his medical degree from the University of Oklahoma in 1961, completed his internship in Tulsa, and his residency in Pineville, La. Afterwards he move to Vinita to establish a joint practice with classmate Edward W. Allensworth, MD. Dr. Dehart was a past president of the Craig-Delaware-Ottawa County Medical Society and chief of staff at Craig General Hospital. He served in the U.S. Air Force from 1951 to 1955. At the 1996 OSMA Annual Meeting in April, Dr. Dehart received a special award recognizing his years of service on the JOURNAL's Editorial Board.

Ralph Carrol Denny, MD
1920 - 1996

Tryon native Ralph C. Denny, MD, retired Yukon surgeon, died in July of this year. His exact date of death was unavailable. A 1952 graduate of the University of Oklahoma School of Medicine, Dr. Denny completed both his internship and residency at St. Anthony Hospital in Oklahoma City.

William Allen Heflin, MD
1924 - 1996

OSMA Life Member and longtime Ryan physician William A. Heflin, MD, died August 3, 1996, in Waurika. Born in Galesburg, Ill, he was graduated from Case Western Reserve in Cleveland, Ohio, in 1948, and remained in Cleveland for his internship. A family physician, Dr. Heflin established his medical practice in Duncan the following year and in 1951 moved to Ryan. In 1973 he received a special commendation from the Oklahoma State Legislature for his part in training 25 emergency medical volunteers in Ryan.

New Directions in Medicine

OSMA Annual Meeting
April 24-27, 1997
Southern Hills Marriott
Tulsa, Oklahoma

In Memoriam

1995

William Martin Benzing, Jr., MD ..... September 2
Thomas Lee Moffeit, MD ..... September 19
Avery Bruce Wight, MD ..... September 21
George Burley Gathers, Jr., MD ..... October 2
Malcolm Mollison, MD ..... October 8
Ralph William Murphy, MD ..... October 13
George Newton Barry, Sr., MD ..... October 16
John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Ralph Richard Markland, MD ..... February 10
William Jackson Dowling, MD ..... February 13
Theodore Sherman Williams, MD ..... February 22
John Walker Johnson, Jr., MD ..... March 13
Joseph Jules Maril, MD ..... March 16
Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Hobart Curtis Sanders, MD ..... March 22
Charles Eugene Green, MD ..... March 29
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3
Marlene Marie Normand, MD ..... May 6
Henry Hubert Modrak, MD ..... May 17
James Polk Luton, MD ..... May 21
John Hartwell Dunn, MD ..... May 27
Logan Albert Spann, MD ..... June 7
Coye Willard McClure, MD ..... June 19
James Jackson Gable, Jr., MD ..... July 8
Thomas McNeil Story, MD ..... July 9
Herschel Jerome Rubin, MD ..... July 12
John Andrew Graham, MD ..... July 20
Robert Douglas Anspaugh, MD ..... July 21
Robert Moran Herlihy, MD ..... July 24
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William Allen Heflin, MD ..... August 3
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Ollie Wayne Dehart, MD ..... August 28

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However, at noon, on a bright, sunny day, less that 100 feet from where I lived, I was robbed and assaulted while walking my dog.

Any victim can tell you, once you become a victim, your life changes forever. You never feel the same again about your personal safety, the community around you, or the people you encounter on a casual basis. You lose your sense of trust, your confidence in your fellow human beings.

Since that day, I have become avid in my zeal to end violence on any level. During my presidency of Los Angeles County Medical Alliance, I changed the focus for that year to domestic and child abuse and the problems of violence in the streets of America. Our county alliance distributed thousands of palm cards (cards that could be hidden in the victim's palm) to emergency rooms and physicians offices. On these cards were printed the names and phone numbers of shelters and places to contact if one were being abused.

Ask yourself what the following people have in common:

- 78% of prison inmates
- 90% of substance abusers
- 80% of prostitutes
- 95% of sex offenders
- 95% of child abusers
- 97% of juvenile delinquents

They were all abused as children!

The number of Oklahoma children reported abused or neglected has skyrocketed from 18,149 in 1984 to 34,846 in 1994. In the past 10 years, 265 Oklahoma children have died due to abuse. An Oklahoma child becomes a victim of child abuse every hour of every day.

This must be stopped and it must be stopped now.

We as physicians and physicians' spouses must be at the front line in the war against violence. October 9, 1996, is SAVE Today (Stop America's Violence Everywhere). Each city and each county in Oklahoma should be aware of this project promoted by the AMA Alliance and participate in the promotion of this day. The Program Kit will show how each of you may get involved.

Please send for one at: The Medical Alliance of the American Medical Association, 515 North State Street, Chicago, Illinois 60610, 312/464-4470.

Every day we ignore this issue, another 96 episodes of violence occur.

—Joan Faulconer Cobble, Health Promotions
918-496-8524

THE LAST WORD

■ **In August, the Federal Trade Commission (FTC) and** the Department of Justice (DOJ) released revisions of antitrust guidelines, which should result in more choice for patients, more competition, and better health care. According to AMA Executive Vice President P. John Seward, MD, the positive ruling was directly attributable to the tremendous grassroots support of the federation. Under the new guidelines: (1) For the first time, noncapitated physician ventures will be judged by the rule of reason rather than being viewed as *per se* illegal when a single price for services is agreed upon. The new statement says that "it is unlikely" that joint ventures in competitive markets would raise substantial antitrust concern. (2) Networks of physicians as large as 50% will be viewed as reasonable in competitive markets if they are nonexclusive and meet standard joint venture criteria. (3) The FTC and DOJ acknowledge that the market for medical services has significantly changed and that there are substantial benefits from physician joint ventures that patients should be given the option of selecting.

■ **According to attorneys George Short, Cindy Sparling,** and John Wiggins, the lawsuit brought by the Oklahoma State Board of Medical Licensure and Supervision (OSBMLS) against the Board of Examiners of Optometry over the issue of the use of lasers by optometrists will most likely go to trial in January, 1997.

The attorneys had hoped for a November trial but the judge assigned to the case has scheduled surgery and recuperation for the end of the year. A case was argued before an Idaho judge in September involving optometrists in that state performing PRK procedures. The judge's ruling in that case is expected in mid-October. At the last meeting of the Oklahoma Board of Examiners of Optometry this summer in Tahlequah, a Tulsa optometrist petitioned the board for permission to perform PRKs using a laser. He was denied permission until he could demonstrate more "wet lab" experience.

■ **At a meeting in September, the OMPAC Board of Directors** changed the dues structure so that Oklahoma physicians can more effectively compete with groups like the Oklahoma Trial Lawyers Association and others. OMPAC will continue with its basic $100.00 contribution. Oklahoma physicians now are encouraged to become a member of the President's Circle, $1,000.00; the "500 Club," $500.00; or a "Sustainer" at $250.00.

■ **Aetna has opted out of the Medicare claims processing** business. Aetna's contract with the Health Care Financing Administration (HFCA) expired at the end of September but the company voluntarily offered to continue to operate through September 1997 or earlier if a replacement is identified. OSMA officials met with HCFA representatives last month in Dallas. The HCFA staffers said they will do everything in their power to make the transition to a new fiscal intermediary as smooth as possible. At the Dallas meeting the HCFA officials said because of time constraints, there would be no RFP bidding process. Instead, the HCFA Dallas office had recommended to the HCFA Washington office an existing carrier to take over the claims processing operation in Oklahoma. They were not at liberty to identify the carrier they had recommended. It was learned later that HCFA's Washington office had rejected the recommendation and asked that bids be solicited only from existing carriers.

■ **Six members of the Oklahoma State Medical Associa**tion have been named by Governor Frank Keating to his Task Force on Trauma Systems Development. They are Edward N. Brandt, Jr., MD, Oklahoma City; Stanley O. Skarli, MD, Lawton; Frank L. Mitchell, MD, Tulsa; David W. Tuggle, MD, Oklahoma City; John C. Sacra, MD, Tulsa; and Stephen K. Cagle, MD, Oklahoma City. The Task Force met for the first time in September.

■ **OSMA members have been appointed by Governor Frank** Keating to the Oklahoma State Board of Medical Licensure and Supervision and the Physician Manpower Training Commission (PMTC). Terry E. Burge, MD, a Bartlesville family physician, is a new member of PMTC. Billy H. Stout, MD, an Oklahoma City general surgeon, is the new member of OSBMLS.

■ **The Oklahoma Foundation for Medical Quality (OFMQ)** has an immediate opening for a physician to serve as associate clinical coordinator (ACC). The ACC will have two primary responsibilities: to assist the principal clinical coordinator in the implementation of the Health Care Quality Improvement Program and to carry out the duties of medical director in those limited circumstances that arise as a result of the organization's performance of case review as the peer review organization of Oklahoma. Interested physicians should forward a copy of their CV to: Dale W. Bratzler, DO, MPH, Principal Clinical Coordinator, OFMQ, 5801 Broadway Extension, Suite 400, Oklahoma City, OK, 73118, phone 405-840-2891, fax 405-840-1343, or e-mail <dbratzler@ofmq.com>.

■ **Association dues for lobbying expenses are not tax de**ductible. As a result, 29% of AMA dues and 26% of OSMA dues for 1997 cannot be deducted as a business expense for federal tax purposes. In addition, no portion of any dues paid to the American Medical Political Action Committee or the Oklahoma Medical Political Action Committee can be deducted as a business expense on the federal income tax return. J

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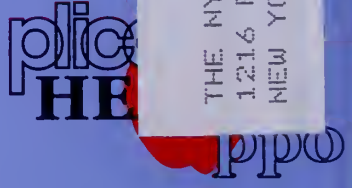

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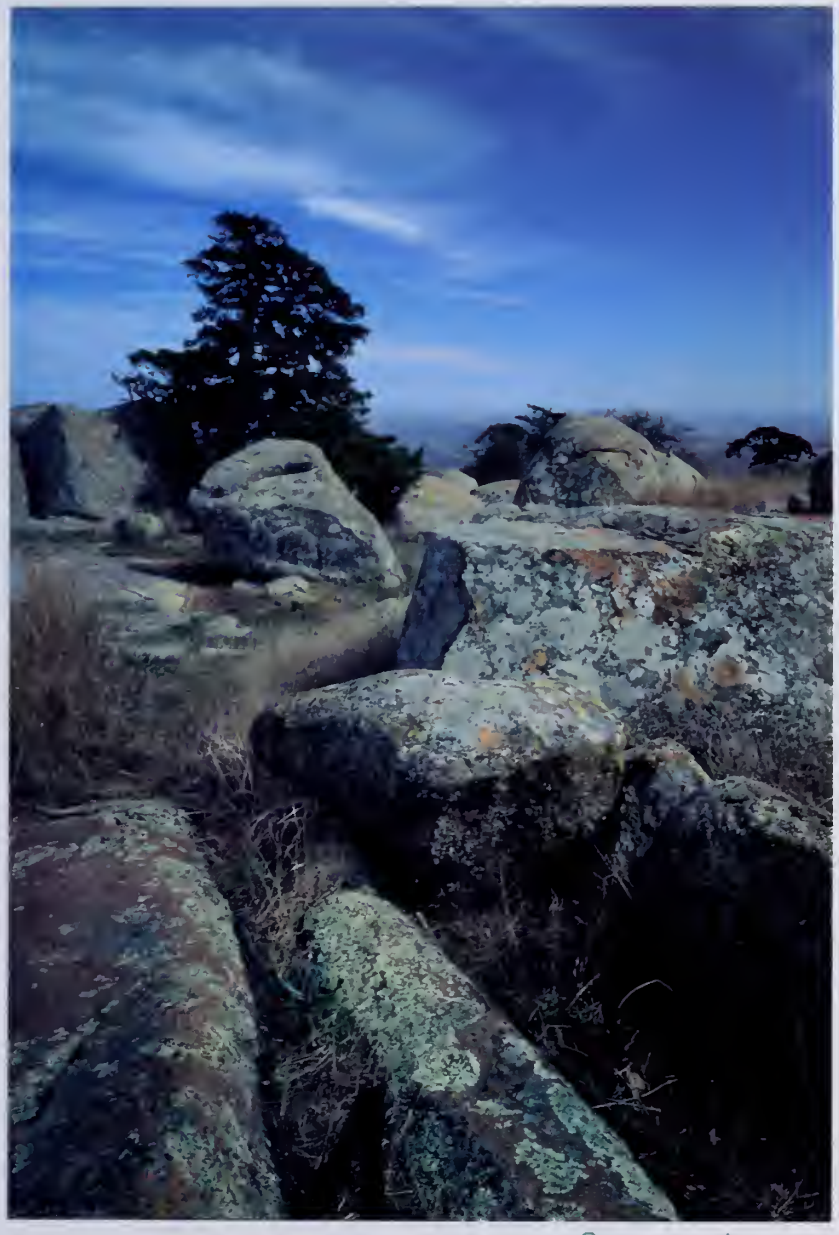

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EDITORIAL

Electronic LSD 391
R.V. McIntyre, Kingfisher

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The Mission and the Future of the OSMA 393
D.L. Harper, Tulsa

SCIENTIFIC

Charcot-Marie-Tooth Disease Type 1A: A Family Study with Microsatellites 395
Y. Qu, N.J. Carpenter, L. Whetsell, D.P. Smith, B. Say; Oklahoma City

Case Report: Scrotal Cellulitis Secondary to Hot Tub Exposure 400
J.B. Forrest, M.A. Drake; Tulsa

Case Report: Locally Acquired Trichinosis in an Immigrant from Southeast Asia 402
T. Graves, J. Harkess, J.M. Crutcher; Oklahoma City

NEWS

Optometrists lose PRK suit in Idaho, 405... Shook becomes president of ASIM, 405... Managed Care Task Force meets in Tulsa, 405... AMPAC Campaign School set for spring, 406... OSMA board sees award nominees, 406...

DEPARTMENTS

Health Department, 407... Classifieds, 409... Deaths, 409... Alliance, 415... The Last Word, 416

ABOUT THE COVER

Natural stone blocks in Oklahoma's Wichita Mountains are reminiscent of England's ancient Stonehenge.

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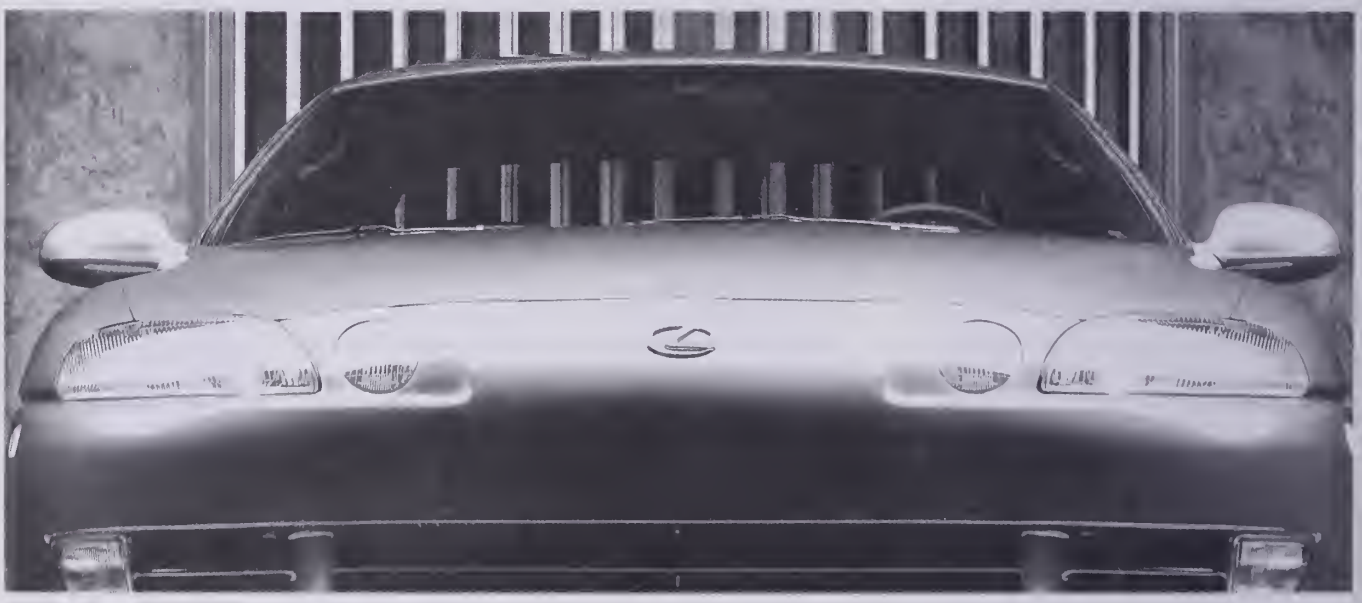

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EDITORIAL

Electronic LSD

The current expansion in computer communication technology has captivated everyone in the world who has access to a computer. The resultant possibilities for the development of the human mind and our options may properly be compared to those signal events of human history like the invention of an alphabet or the printing press.

While there may well be an element of entertainment faddishness in today's enchantment with the computer, there is no doubt that the Internet offers unprecedented opportunity for quick access to vast information stores and to other human minds. The time will soon be when anyone's access to any book or human mind in the world can be made feasible.

The Oklahoma State Medical Association, as the representative organization for most of the physicians of our state, should and will play a role in the vast communications network now in formation among the computers of the world. As a preliminary step in an ongoing process OSMA has activated a home page on the World Wide Web where the computers of the world may come to an electronic billboard and read about the basic structure and function of our association.

The content and evolution of the communication function of this home page should now be the interest and concern of every member of the Oklahoma State Medical Association. An opportunity to increase the level of service to the Oklahoma public and the Oklahoma physician through the broad access of this home page now exists. An interesting, informative, and useful home page is now a desiderata.

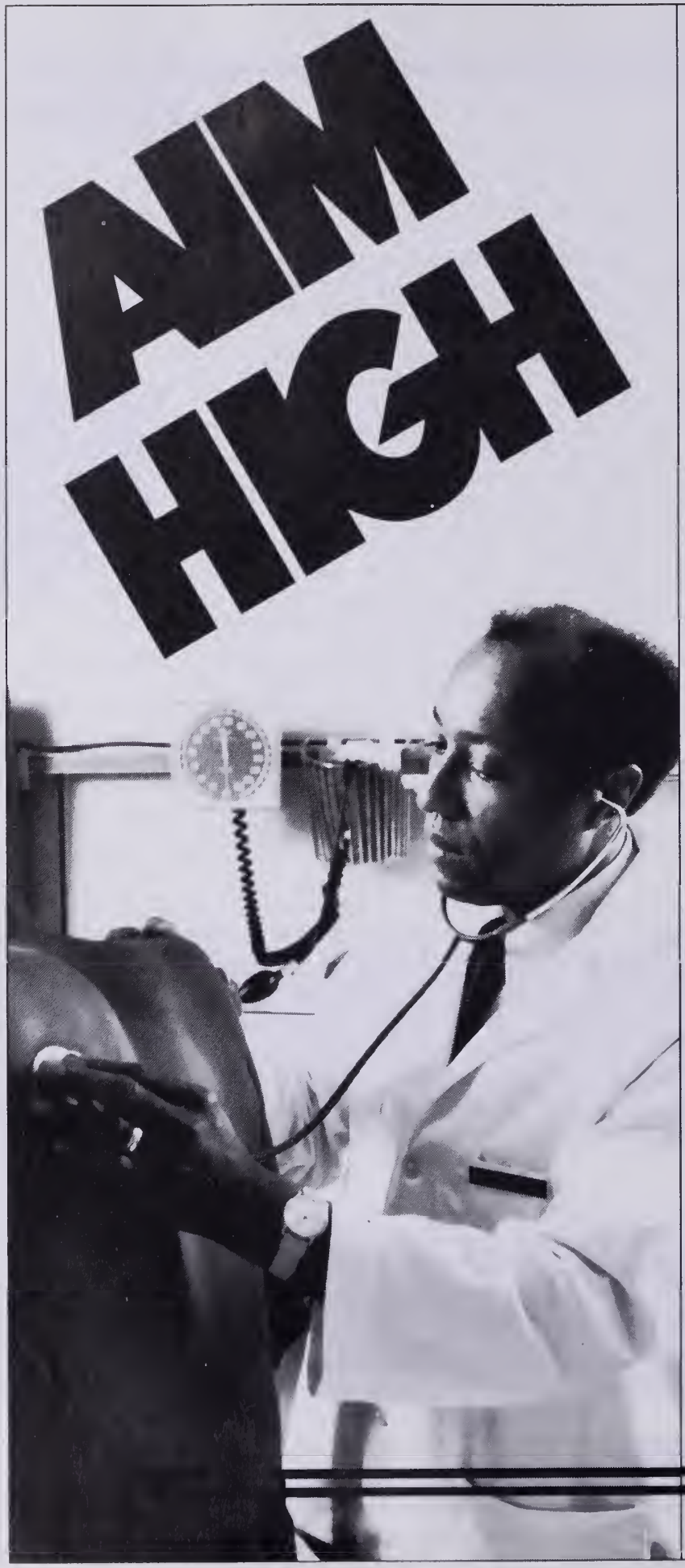
Our association members could now be advancing ideas for the content of the OSMA Online home page. Should there be a public service department with recommended vaccination schedules or screening tests, or other clinical material? Should computer contact with the general lay public be actively sought? Should physicians' services such as consultation, referral, or locum tenens opportunities be listed? Is there a need for physician consultation services on difficult clinical cases via the Internet? Should there be limits to the home page offerings?

Regardless of the content of the material offered, the association should commit to providing a home page that is authentic, timely, accurate, and useful to the physician members and to the general public who contact it. The question whether to use the home page for revenue generation or whether to post advertisements should be answered through general agreement of the membership. Your input is solicited.

Welcome to <http://www.osmaonline.org>!

Ray V. McIntyre, M.D.

An editorial is a column of personal opinion that may or may not reflect the official position of the OSMA.



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AIR FORCE

The Mission and the Future of the OSMA

In the coming years, the Oklahoma State Medical Association as well as the American Medical Association and the county medical societies will need a defined role to merit the continued financial support of their members in days of diminishing dollars. Physicians will ask more and more, "What will these organizations do for me? Can I justify the dues?" What is the legitimate mission of organized medicine and, specifically, the OSMA?

1. While the individual physician should continue to be his/her patient's best advocate, the OSMA must represent the physicians and patients of our state and be their best advocate. This is of paramount importance.

2. The OSMA must work to maintain both the integrity of the profession of medicine and the quality of healthcare during a time of change and reform. This effort includes taking a leadership role and encouraging that the highest ethical standards be maintained, especially with the pressures and dilemmas which may be imposed in a managed care environment.

3. The OSMA should provide the best political representation available for the physicians of our state and be able to communicate this to our constituency and show results.

4. The OSMA should be a unified front representing the physicians of Oklahoma, concentrating our efforts and energies on representing physicians and patients in all aspects. We need to work with the specialty societies and exhibit more togetherness so as to speak with one voice on the truly important issues facing medicine and healthcare. We need to be unified under the aegis of the OSMA so we can have the clout to undertake a meaningful political dialogue that will produce positive outcomes.

5. PLICO will continue to be the crown jewel of the many projects started by OSMA. We need to remember it is run completely by OSMA physicians elected by our membership, and should strive to keep it under physician control in the future.

The Oklahoma State Medical Association is the only organization representing all the physicians of Oklahoma regardless of specialty, location, hospital affiliation, or managed care participation. It is very worthwhile to support the only organization which unifies us. We should never be complacent, never be satisfied with mediocrity, but should continue to follow our mission to ever improve our effectiveness.

David Hagen

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Charcot-Marie-Tooth Disease Type 1A: A Family Study with Microsatellites

Yong Qu, PhD; Nancy J. Carpenter, PhD; Lynne Whetsell, BS; Donna P. Smith, MS, RN; Burhan Say, MD

Charcot-Marie-Tooth (CMT) disease (also called Hereditary Motor and Sensory Neuropathy) is an inherited peripheral neuropathy with a prevalence rate of 1 in 2,500.[1,2] Charcot-Marie-Tooth disease type 1A (CMT1A), the most common autosomal dominant form of the disease, is associated with a duplication of a segment of chromosome 17 (17p11.2).[3,4] In this report we present a three-generation family with CMT1A where simple sequence repeats (di- or tri-nucleotide repeats, also called microsatellites) were used in conjunction with polymerase chain reaction (PCR) to identify the duplication. The presence of three alleles or the presence of two alleles with a dosage ratio of 1:2 for the markers D17S839 and D17S921 indicates the presence of the duplicated segment in affected family members, whereas two alleles with a ratio of 1:1 indicate absence of the duplication. Several markers outside the duplication region which have two alleles with a dosage ratio of 1:1 were used as controls. Seven CMT1A patients in this family carry the CMT1A duplication. One 12-year-old boy who has not exhibited any clinical symptoms does not have the CMT1A duplication. We believe that this is a simple, rapid, and effective method to identify the CMT1A duplication in most patients suspected of having CMT1A.

Several different molecular genetic methods have been developed for diagnosis of CMT1A including Southern blot analysis, pulsed field gel electrophoresis, and fluorescence in situ hybridization. Recently, polymerase chain reaction (PCR) using microsatellite loci has been used for the diagnosis of CMT1A.[5,6] These loci are highly polymorphic DNA markers which display a variable number of easily identifiable alleles based on very short tandem repeats of 2 to 4 base pairs (bp).[7,8] In the present study, we used two test loci, D17S839 and D17S921, located within the CMT1A duplication region and four control loci, D17S250, D17S579, D17S588 and D17S798, outside of the duplication segment to screen for the presence or absence of the duplication in a three-generation family. Using fluorescence-based PCR, the loci were analyzed on an automated ABI DNA sequencer with Genescan software for accurate allele sizing and quantitation.

Case Report

The proband, a 32-year-old Caucasian woman, was self-referred to our genetic clinic because she was diagnosed clinically as having CMT disease, most likely type 1A. Her history indicated that she did not have any health problems during infancy or early childhood. For instance, she was able to walk without support even before her first birthday. However, by 6 years of age she was noted to have difficulties in writing due to muscle pain and had an unusual gait which caused her to fall quite easily. At 8 years of age, she began to experience rather severe leg pains which necessitated a complete neurologic exam. An EMG showed findings consistent with CMT disease. Later she had several corrective surgical procedures which seemed to help her. However, about three years

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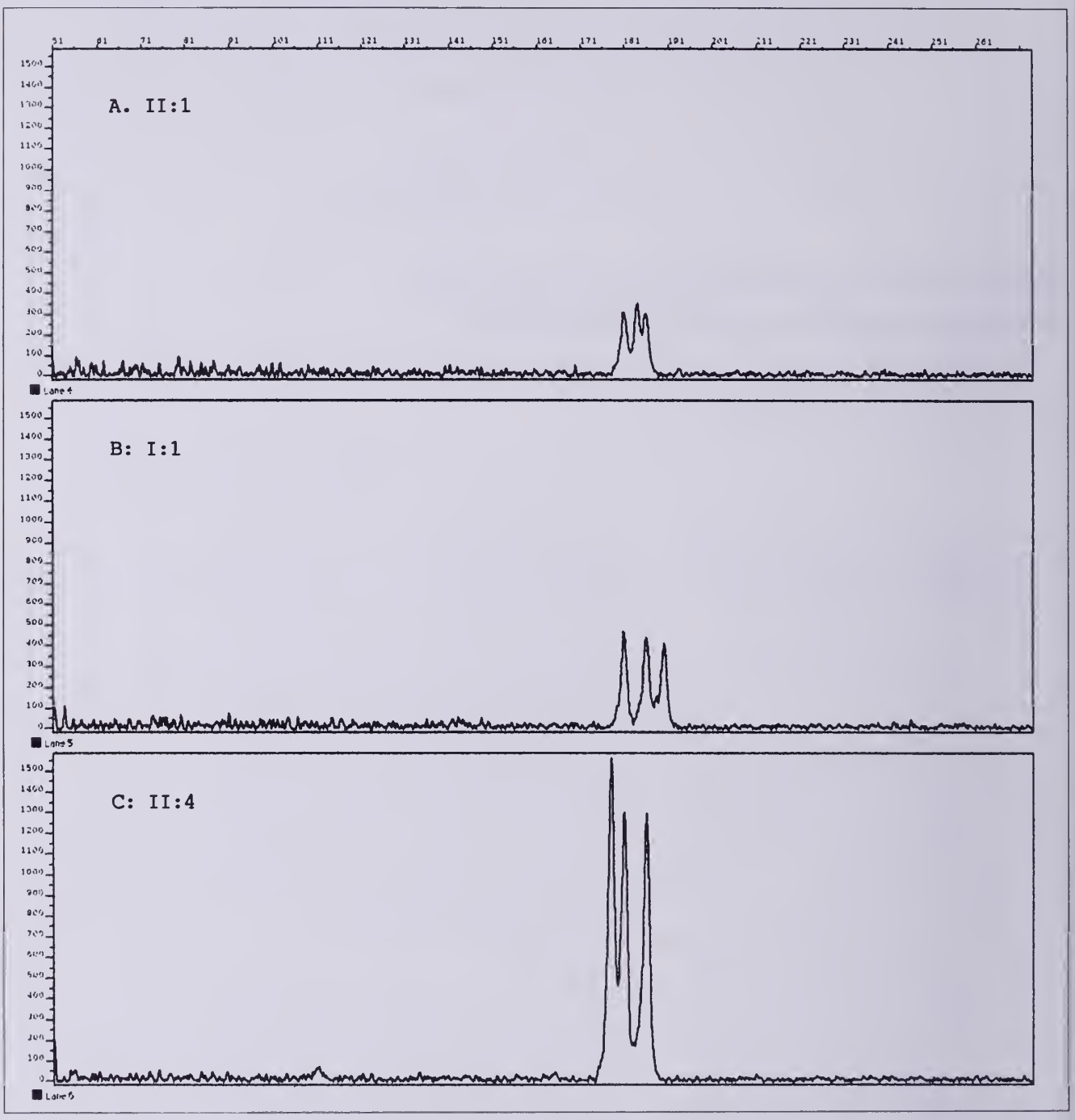

Figure 1. Electropherograms from the proband (A), her father (B), and her brother (C) for the locus D17S921. The three peaks represent 3 alleles with different sizes for each individual.

ago she started to have leg pains again with progressive weakening of her arms and legs. A repeat EMG three months ago again showed marked abnormalities involving her lower extremities.

The family history showed that there were several other individuals among her immediate family members who were similarly affected including her father and her brother, one of her sons, and her three nieces.

Results

Genomic DNA was extracted from a 10 ml EDTA blood specimen from the proband. PCR was used to amplify two microsatellite loci, D17S839 and D17S921, within the CMT1A duplication region to determine if a duplication was present. Fluorescently labeled primers were used so that the amplification products could be detected by an automated DNA sequencer and analyzed using the

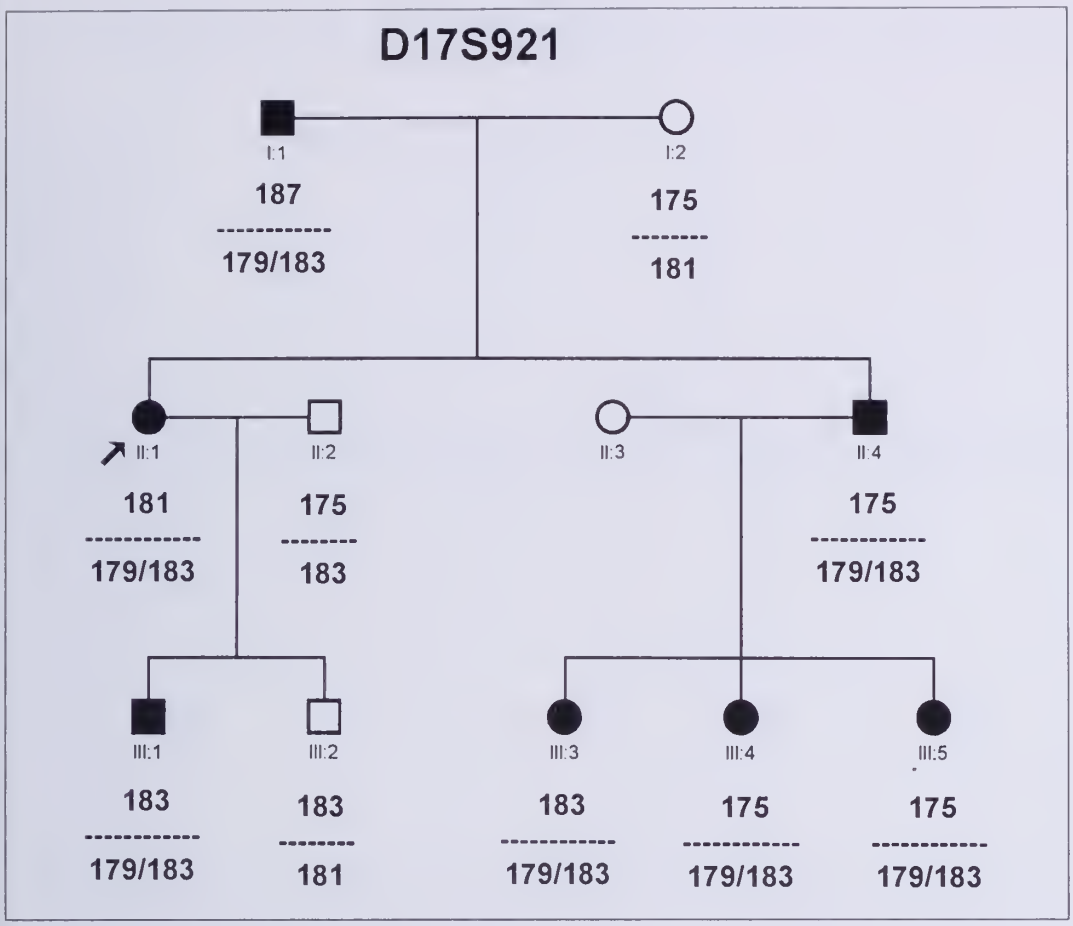

Figure 2. The family pedigree shawing segregatian af the D17S921 lacus. Numbers belaw each individual represent allele sizes in base pairs. Alleles abave ar belaw the dashed line indicate they are an different chramasame 17s. Alleles separated by a slash are lacated an the same chramasame 17.

Genescan software. After her mutation was identified, the other family members were tested, including her younger son who had not shown any clinical symptoms. Blood specimens were obtained from all of her family members except II:3 in Figures 2 and 4. The same method described above was used to make the diagnoses.

As shown in Figure 1A, the proband (II:1) has 3 alleles (179/181/183) at the D17S921 locus. Her father (I:1) and her brother (II:4) also have 3 alleles at this locus (179/183/187 and 175/179/183 in Figs 1B and 1C, respectively). It is clear that these individuals have the same two alleles, 179 and 183, which must be located on the same chromosome 17 with CMT1A duplication since the proband and her brother inherited a different allele (181 and 175, respectively) from their mother (I:2, Fig. 2). These results establish that the inheritance of the 179/183 alleles in this family is associated with CMT1A disease as shown in the proband's son (III:1) and her nieces (III:3, III:4 and III:5). The unaffected son (III:2) inherited his mother's normal allele (181) rather than the 179/183 alleles and thus does not have the CMT1A mutation. These results are summarized in Figure 2.

To confirm these results, another locus (D17S839) within the duplication region was also studied. The proband (II:1) and her father (I:1) both have 2 doses of allele 155 and 1 dose of allele 161 (Figs 3A, 3B). Her brother (II:4, Fig. 3C) also has 155/161 alleles plus a third allele 157 from his mother (I:2, Fig. 4). The results from D17S839, summarized in Figure 4, indicate that the proband, her father, and her brother all have the 155/161 alleles which represent the CMT1A duplication. The other affected members (III:1, III:3, III:4, III:5) also inherited these 155/161 alleles. The unaffected son (III:2) inherited his mother's normal allele 155, instead of the 155/161 alleles, confirming that he does not have the CMT1A mutation. Several loci outside of the duplication region, D17S250, D17S579, D17S588, D17S798, used as control loci, show equal intensity of two alleles as expected.

Discussion

Traditionally, nerve conduction velocity (NCV) studies have been an essential part of the clinical evaluation of patients with peripheral neuropathy. However, most patients find NCV tests to be

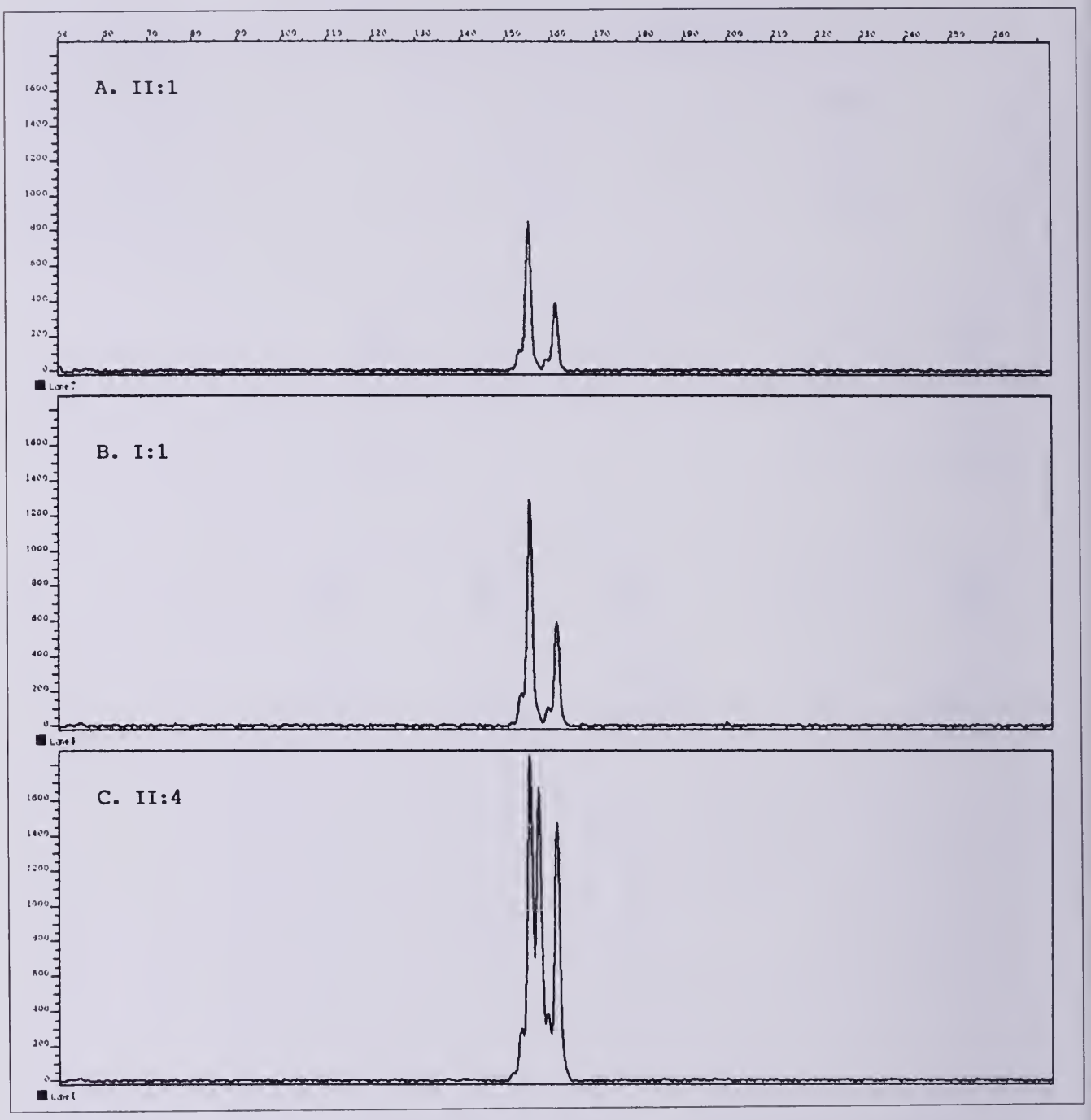

Figure 3. Electropherograms from the proband (A), her father (B) and her brother (C) for the locus D17S839. A & B indicate 2 alleles (2 peaks) exist with the smaller (l) having twice the intensity of the larger (r). II:4 (C) shows 3 peaks representing 3 alleles with different sizes for this individual.

painful. As a result, some patients do not return to the clinic and parents often refuse NCV testing on their children. The present study used a nonradioactive test for detection of the CMT1A duplication based on microsatellite polymorphisms. This method is simple, rapid, and economical.

Approximately 75% of patients with clinical findings and decreased NCVs harbored the CMT1A duplication.[9-11] Therefore, the test used in the present study is a useful new tool for diagnosis of CMT1A, especially before clear manifestation of clinical symptoms. Early diagnosis for CMT1A is important because the age of onset varies greatly. This diagnosis will prepare children to obtain early medical intervention and will assist the parents and patients to make wise career and family planning decisions. J

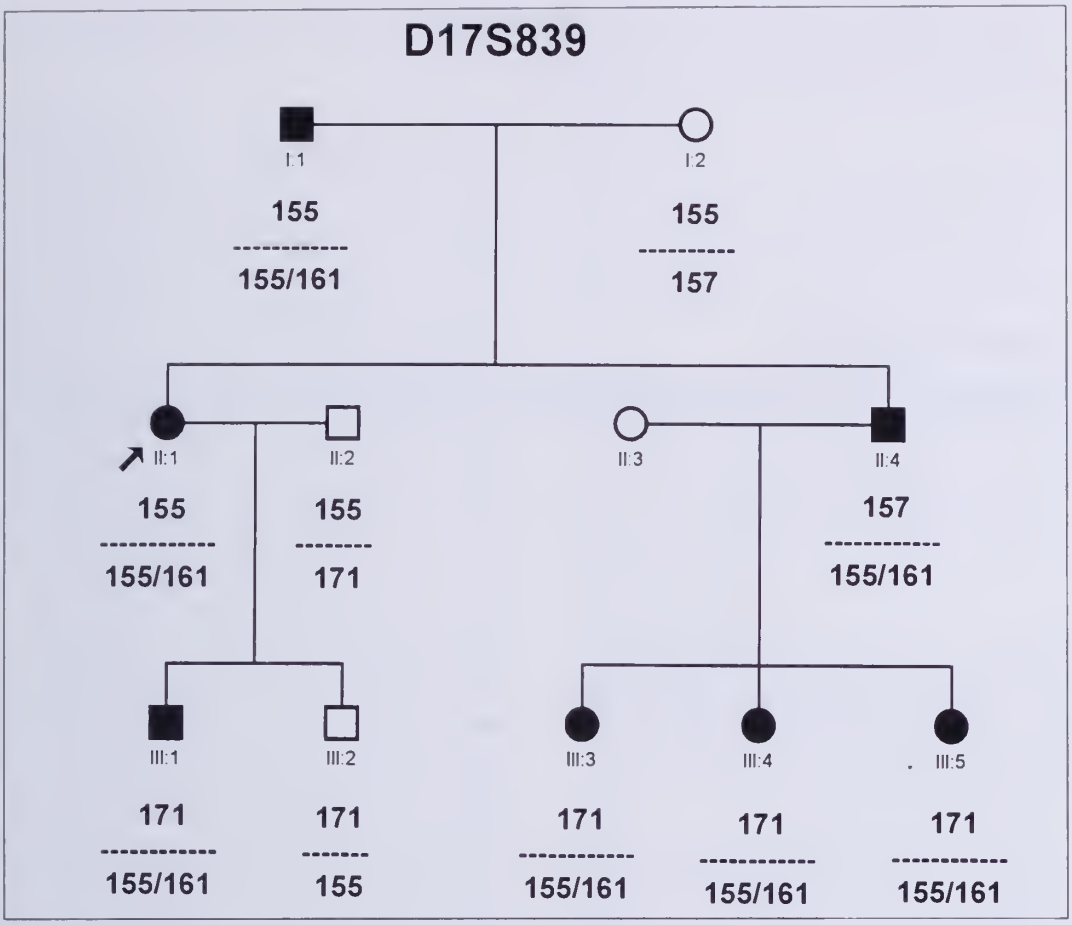

Figure 4. The family pedigree showing segregation of the D17S839. Numbers below each individual represent allele sizes in base pairs. Alleles above or below the dashed line indicate they are on different chromosome 17s. Alleles separated by a slash are located on the same chromosome 17.

Acknowledgments

We are grateful to Linda Randell, BS, CLSp, for DNA extraction of the patient samples and Eunice Hallum, RN, who coordinated obtaining the specimens on the family members. This work was partially supported by the Children's Medical Center Foundation and the Founders of Doctor's Hospital Incorporated.

References

1. Skre H. Genetic and clinical aspects of Charcot-Marie-Tooth's disease. *Clin Genet* 1974; 6: 98-118.
2. Lupski JR, Garcia CA, Parry GJ, Patel PI. Charcot-Marie-Tooth polyneuropathy syndrome: Clinical, electrophysiological, and genetic aspects. In *Current Neurology*: Appel S ed. (Chicago: Mosby-Yearbook), 1991. pp. 1-25.
3. McKusick VA. *Mendelian Inheritance in Man* (Baltimore: The Johns Hopkins University Press), 1990.
4. Lupski JR, de Oca-Luna RM, Slaugenhaupt S, Pental L, Guzzetta V, Trask B, Saucedo-Cardenas O, Barker DF, Killian JM, Garcia CA, Chakravarti A, Patel PI. DNA duplication associated with Charcot-Marie-Tooth disease type 1A. *Cell* 1991; 66: 219-232.
5. Cudrey C, Chevillard C, Le Paslier D, Vignal A, Passage E, Fontes M. Assignment of microsatellite sequences to the region duplicated in CMT1A (17p12): a useful tool for diagnosis. *J Med Genet* 1995; 32: 231-233.
6. Blair IP, Kennerson ML, Nicholson GA. Detection of Charcot-Marie-Tooth type 1A duplication by the polymerase chain reaction. *Clin Chem* 1995; 41: 1105-1108.
7. Weber JL, May PE. Abundant class of human DNA polymorphisms which can be typed using the polymerase chain reaction. *Am J Hum Genet* 1989; 44: 388-396.
8. Litt M, Luty JA. A hypervariable microsatellite revealed by in vitro amplification of a dinucleotide repeat within the cardiac muscle actin gene. *Am J Hum Genet* 1989; 44: 397-401.
9. Wise CA, Garcia CA, Patel PI, Lupski JR. CMT1A duplication analysis in the diagnostic evaluation of patients with peripheral neuropathy. *Am J Hum Genet* 1994, 54: 728-729.
10. Chance PF, Fischbeck KH. Molecular genetics of Charcot-Marie-Tooth disease and related neuropathies. *Hum Mol Genet* 1994; 3: 1503-1507.
11. Wise CA, Garcia CA, Davis SN, Heju Z, Pentao L, Patel PI, Lupski JR. Molecular analyses of unrelated Charcot-Marie-Tooth (CMT) disease patients suggest a high frequency of the CMT1A duplication. *Am J Hum Genet* 1993; 53: 853-863.

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Case Report: Scrotal Cellulitis Secondary to Hot Tub Exposure

John B. Forrest, MD; Mark A. Drake

Inflammatory disorders of the scrotum vary in their presentation and etiology. This may range from relatively minor cutaneous infections to scrotal gangrene. Herein presented is a case of scrotal cellulitis secondary to cutaneous inoculation from a hot tub.

Scrotal cellulitis varies in its presentation, etiology, natural course, and treatment. Cellulitis of the scrotum may range from relatively minor infections to life-threatening infections, such as Fournier's gangrene. Herein reported is a case of scrotal cellulitis which was secondary to cutaneous inoculation arising from hot tub exposure.

Case Report

A 12-year-old white male was referred to our office with increased swelling and erythema of the scrotal skin. Approximately 18 hours prior to his initial examination, the patient had accidentally fallen on the side of his backyard hot tub. This resulted in blunt trauma to the scrotum against the wall of the tub and exposure to the water present within the hot tub. Approximately 6 hours later, the patient developed swelling of the right hemiscrotum with redness of the skin and some associated discomfort. This progressed over the next 12 hours, and the patient was referred to our office for further evaluation. Examination at that time revealed well demarcated scrotal erythema with mild edema of the right hemiscrotal wall. A scrotal ultrasound was obtained with Doppler flow technique, which revealed slight thickening of the scrotal skin with no evidence of epididymal or testicular injury. Testicular and epididymal blood flow was normal. The patient received ceptriaxone intramuscularly followed by oral cephalexin. However, over the next 24 hours, the patient developed increased swelling of the right hemiscrotum. The patient was admitted for parenteral antibiotic therapy. The cellulitis over the next 12 hours progressed rapidly with an increase in the patient's fever. Laboratory data at that time revealed a normal urinalysis along with a leukocytosis of 16,500 with a left shift. The patient was placed on ampicillin and gentamicin parenterally. He continued with rapid progression of the cellulitis with a progressively febrile course. The patient was taken to the operating room where a right scrotal exploration was carried out. This revealed edema of the scrotal skin with a normal-appearing right testis and epididymis.

A culture obtained from a small amount of reactive fluid around the right testicle was negative. No skin was debrided at that time. The patient was subsequently switched to ticarcillin/clavulanic acid 3.1 mg IV q 4 hours. Over the next twenty-four hours, the patient's febrile course began to defervesce and the erythema improved. The patient continued to improve on IV antibiotic therapy over the next 5 days and was switched to amoxicillin/clavulanic acid orally. The patient was discharged from the hospital on oral antibiotic therapy for an additional 2 weeks. Follow

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up at that time revealed complete resolution of the cellulitis.

Discussion

Cellulitis and/or folliculitis secondary to hot tub exposure has been previously described.[1] Most commonly, folliculitis has been described associated with Pseudomonas aeruginosa inoculation which has been found to be present within hot tubs. Excessive amounts of organic debris, poor maintenance with filter overgrowth, and high water temperatures have been described as factors contributing to the presence of Pseudomonas within hot tubs.[2] Additionally, loofah sponges have been described as a reservoir for Pseudomonas, cellulitis, and/or folliculitis.[3] Pseudomonas cutaneous infections characteristically result in skin erythema, pain, edema, and a resulting folliculitis with surrounding erythema.[4,5] Scrotal infections have additionally been described with Streptococcus, Staph species, and polymicrobial infections including aerobic and anaerobic organisms as is seen in rapidly progressive conditions such as Fournier's gangrene.[6-8]

It was assumed in this case report that the cultures were negative secondary to prior treatment with oral and parenteral antibiotics at the time of obtaining the cultures of the scrotum. Amoxicillin/clavulanic acid was selected as the oral drug in light of the negative cultures and of the patient's response in the hospital to this selection of oral antibiotic therapy. Adequate treatment is predicated upon the rapid recognition and the institution of appropriate therapy for scrotal cellulitis. Predisposing factors such as diabetes mellitus and potential routes of exposure need to be recognized. The onset of obvious gangrene, tissue compromise, or progressive cellulitis warrants aggressive surgical intervention with tissue debridement.[9,10] Other measures such as hyperbaric oxygen may be of benefit in the management of these potentially aggressive conditions.[11,12]

Conclusion

A case of scrotal cellulitis arising from skin inoculation in a hot tub has been presented. Rapid recognition of this condition is essential for appropriate therapy based upon the recognized modes of exposure and potential pathogens. J

References

1. Spitalny K, Vogt R, Witherell L. National survey in outbreaks associated with whirlpool spas. *Am J Public Health* 1984; 74:725-726.
2. Schlech W, Simonsen N, Sumarah R, Martin R. Nosocomial outbreaks of Pseudomonas aeruginosa folliculitis associated with a physiotherapy pool. *Am J Clin Micro* 1986; 134:909-913.
3. Bottone E, Perez A. Pseudomonas aeruginosa folliculitis acquired through use of a contaminated loofah sponge: An unrecognized potential public health problem. *J Clin Micro* 1993; 31:480-483.
4. Roberts R, Tarpay M, Marks M, Nitschke R. Erysipelaslike lesions and hyperesthesia as manifestations of Pseudomonas aeruginosa sepsis. *J Am Med Association* 1982; 248:2156-2157.
5. Zacherle B, Silver D. Hot tub folliculitis: A clinical syndrome. *J of Medicine* 1982; 137:191-194.
6. Thadepalli H, Rao B, Datta N et al. Polymicrobial genital gangrene (Fournier's gangrene): clinical, microbiologic, and therapeutic features. *J Nat Med Assoc* 1982; 74:273.
7. Bartlett J, Gorbach S. Anaerobic bacteria in suppurative infections of the male genitourinary system. *J Urol* 1981; 125:376.
8. Jones R, Hirschmann J, Brown G, et al. Fournier's syndromes: necrotizing, subcutaneous infection of the male genitalia. *J Urol* 1979; 122:279.
9. Flanagan R, Kursh E, McDougas W, et al. Synergistic gangrene of the scrotum and penis secondary to colorectal disease. *J Urol* 1978; 119:369.
10. Spirak J, Resnick M, Hampel N, et al. Fournier's gangrene: report of 20 cases. *J Urol* 1984; 131:289.
11. Riegels-Nielsen P, Hesselfeldt-Nielsen J, Bang-Jensen E, et al. Fournier's gangrene: five patients with hyperbaric oxygen. *J Urol* 1984; 132:918.
12. Park MK, Muhvich KH, Myers RAM, Marzella L. Hyperoxia prolongs the aminoglycoside-induced postantibiotic effect in Pseudomonas aeruginosa. *Antimicrob Agents Chemother* 1991; 35:691-695.

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Case Report: Locally Acquired Trichinosis in an Immigrant from Southeast Asia

Timothy Graves, MPH; John Harkess, MD; James M. Crutcher, MD

The authors report a case of trichinosis acquired in Oklahoma City by an immigrant from Southeast Asia. The 49-year-old female reported having abdominal discomfort, nausea, and vomiting, and had purchased and eaten lightly cooked pork. She also complained of fatigue, anorexia, and muscle aches for several months. An immigrant from Laos, she stated that she regularly eats pork and prefers it rare or mildly cooked. The authors caution local physicians to be aware of the increased risk of trichinosis among Southeast Asian immigrants in the area, particularly those from Laos and Cambodia. Continued emphasis on the need to thoroughly cook all pork products is necessary if the incidence of trichinosis in the U.S. is to be controlled.

Trichinosis is an infection contracted by ingestion of undercooked meat (usually pork) containing larvae of the parasitic worm *Trichinella spiralis*. Because it is rare in the U.S. (an average of 38 cases/year over the last five years) (Fig. 1),[1] most physicians have little or no experience with the disease. Recent reports have documented outbreaks of trichinosis in the U.S. among refugees from Southeast Asia, apparently due to their dietary preference for lightly cooked or uncooked pork. We report here a case of trichinosis in an immigrant from Laos, which was most likely acquired locally from consuming inadequately cooked pork. Several hundred refugees or immigrants from Southeast Asia relocate to Oklahoma each year. Physicians should be aware of the increased risk of trichinosis, and other diseases, in these persons.

Direct correspondence to Timothy Graves, Acute Disease Service, Oklahoma State Department of Health, 1000 Northeast 10th Street, Oklahoma City, OK 73152.

Case Report and Investigation

The patient is a 49-year-old female resident of Oklahoma City who immigrated to the U.S. from Laos 10 years ago. She has a history of type 1 diabetes mellitus, hypertension, and chronic renal failure. She was evaluated on April 10, 1996, because of a several-day history of abdominal discomfort, nausea, and vomiting. She also complained of fatigue, anorexia, and muscle aches for several months. She was found to have an elevated CPK and was admitted to the hospital to rule out MI and to evaluate her renal disease. Physical examination on admission was normal except for a blood pressure of 202/94 and a grade II/VI systolic ejection murmur. Specifically, no periorbital edema was noted. Laboratory findings were as follows: BUN, 50; creatinine, 8; glucose, 128; potassium, 5.6; LDH, 308; CPK, 803; and hemoglobin, 8.2. The WBC was 6000 with 8% eosinophils. In November 1995, 18% eosinophils were noted (normal = 0-7%). Over the next several days she ran a periodic low-grade fever (99.2°-100.6°F). A muscle biopsy of the left gastrocnemius was performed to rule out vasculitis as a cause of her chronic muscle pain and *Trichinella spiralis* was identified (Fig. 1). Her symptoms resolved after several days, without therapy for trichinosis.

The patient stated that she regularly eats pork and prefers it rare or mildly cooked. She denied eating wild animal meat, such as bear, which has also been implicated in the transmission of tri-

chinosis. She obtained her pork from three sources, a local grocery store, an oriental food market, and in the past year, from a local farmer who butchered and sold pork products directly to friends and relatives. She prefers her pork unfrozen, as she feels the pork "toughens" when it is frozen. Two of the patient's children reside in the household with the case. They both stated that they do not consume undercooked pork, preferring their meat well done. Serologic testing of the children was negative for *Trichinella*.

Overview of Trichinosis

The number of cases of trichinosis reported in the U.S. has declined steadily from an average of 350 cases per year in the mid 1950s to an average of 38 cases per year between 1991 and 1994 (Fig. 1).[1] The decline is likely due to a combination of factors, including laws prohibiting the feeding of garbage to hogs, increased use of home freezers, and widespread public knowledge of the need to thoroughly cook pork. Pork remains the most important source of human infection, being incriminated in more than two-thirds of trichinosis cases.[2] Many other animals may be infected with *Trichinella*, including dogs, cats, horses, rats, fox, wolf, bear, wild boar, and marine animals in the arctic. Bear and wild boar are the most common sources of wild animal *Trichinella* infection.[2] A recent report documented an outbreak of trichinosis associated with eating cougar jerky.[3] Although cattle are not naturally infected with *Trichinella*, ground beef is often incriminated in trichinosis cases because of inadvertent or intentional contamination with pork.

After consuming meat infected with viable *Trichinella* larvae, the larvae pass into the small bowel where they invade the duodenal and jejunal mucosa and develop into adult worms. Adult worms are expelled from the bowel over the next two to three weeks, but not until after newborn larvae are produced which pass through the intestinal mucosa and migrate to striated muscle (and occasionally other sites) via the lymphatics and bloodstream. Encysted larvae can remain viable in the muscle for several years. Clinical disease is highly variable and can range from inapparent infection to fatal disease, depending upon the number of larvae ingested.

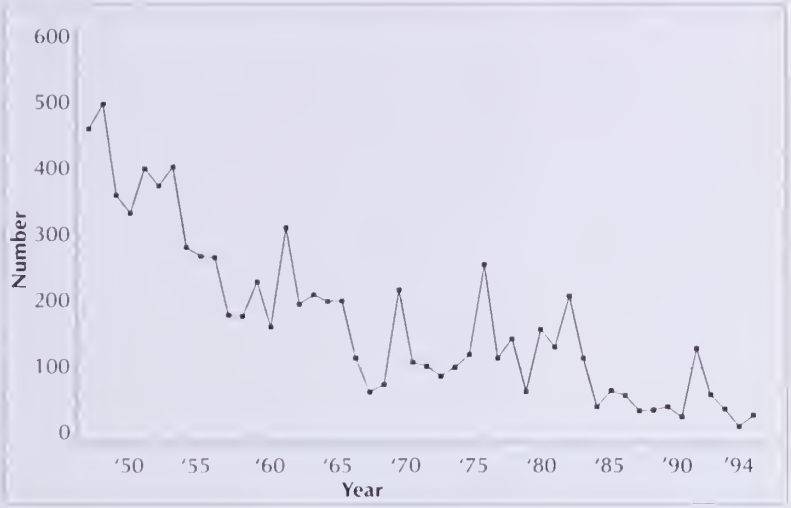

Figure 1. Trichinosis Cases Reported by Year, United States, 1947-1994

The symptoms of trichinosis result from the presence of adult worms in the small intestine and the tissue migration of larvae and their eventual encystment in striated muscle or other sites. Initial symptoms may appear within one to two days after ingestion of the larvae and include abdominal pain and diarrhea. Symptoms of larval migration and tissue invasion follow one to six weeks later and include muscle soreness and periorbital edema, sometimes followed by conjunctivitis, retinal hemorrhages and photophobia, low-grade fever, weakness, and rash. More serious complications and even death may result from cardiac, neurologic, or respiratory involvement. Eosinophilia, ranging from 4% to 60% of the total white blood cell count, is common and may persist for weeks to several months. Muscle enzymes such as creatine phosphokinase (CPK) and lactate dehydrogenase (LDH) are elevated in the majority of patients.

Biopsy of a tender muscle taken at least 10 days after infection provides conclusive evidence of infection but is rarely required. Positive serology in a person with compatible symptoms and history of consuming improperly cooked pork is generally used to make the diagnosis. The infection is self-limited and non-threatening in most patients and therefore requires only supportive care with analgesics and bed rest. If diagnosed

Figure 2. A single coiled *Trichinella spiralis* larva in striated muscle. The lack of calcification in the cyst wall is consistent with a recent infection (i.e., within the last 4-12 months). Photo by Dr. Marlene Greyson, St. Anthony Hospital, Oklahoma City.

early and symptoms are severe, mebendazole is effective against adult worms in the intestine. Whether mebendazole is effective against larvae in the muscle is not certain. Corticosteroids are felt to be indicated for severe cases with extensive muscle involvement or disease of the cardiovascular, pulmonary, or central nervous system. Generally, prednisone, 40-60 mg/day, is used for several days until fever and other symptoms subside. Trichinosis can be prevented by proper preparation of meat. *Trichinella* larvae in pork are killed by freezing at -15°C for 21 days (longer if meat is more than 15 cm thick), or cooking to a temperature of at least 170°F (77°C) until no pink is showing in the meat.

Discussion

This patient represents the first case of trichinosis reported in Oklahoma since 1989. She presented with many of the common signs and symptoms of acute trichinosis—nausea, vomiting, anorexia, fatigue, abdominal pain, and muscle pain. She also had laboratory findings consistent with the disease—elevated CPK, LDH, and a previously elevated eosinophil count. Her symptoms resolved without therapy which is usual except for severe cases. She most likely contracted the infection by consuming undercooked pork which she obtained locally. Although encysted *Trichinella* larvae may persist in muscle tissue for many years, calcification of the cyst generally begins within several months and almost certainly by one year. The fact that calcification was not noted in this specimen indicates that the infection was recent in nature.

Immigrants from Southeast Asia have been previously identified as being at increased risk for trichinosis after relocating to the U.S. due to a dietary preference for lightly cooked pork.[4,5] This custom appears to vary by country of origin, being more common among persons from Laos and Cambodia than those from Vietnam.[5] We interviewed leaders from the local Vietnamese and Laotian communities and found that it indeed appears more commonly among persons from Laos. According to 1990 census data, more than 30,000 persons from Southeast Asia reside in Oklahoma. Also, over 500 refugees and immigrants from Southeast Asia relocate to Oklahoma each year (J. Crutcher, personal communication). The majority of these persons are from Vietnam and most settle in Oklahoma City or Tulsa. Physicians who see these patients (and especially those from Laos and Cambodia) should advise them about the need to thoroughly cook pork and also consider trichinosis in those who present with muscle pains and eosinophilia. This population is also at risk for a variety of latent and chronic infections which they import from their native country (Table).[6,7]

Most Commonly Identified Latent and Chronic Infections of Immigrants from Southeast Asia

- Tuberculosis
- Hepatitis B surface antigen carrier
- Intestinal parasites
- Malaria
- Melioidosis
- Leprosy
- Typhoid carrier state
- Filariasis
- Schistosomiasis

The source of the infected pork could have been either a local commercial market or a private farm. Noncommercial sources, such as small farms, are generally a greater risk since small operations such as these often fail to meet federal hog management practices. The prevalence of *T. spiralis* infection in commercial hogs in the U.S. is generally very low but varies geographically. Periodic testing of swine at slaughter houses around the U.S. reveals infection rates ranging from 0.00% to 0.73%, with the highest rates seen in swine reared in the eastern U.S.[8] Even though the overall rate of infection in swine is low, with approximately 90 million hogs being commercially slaughtered in the U.S. each year, this amounts to a significant number of hogs infected with *Trichinella*. It has been estimated that a national prevalence rate of 0.1% means that about 100,000 infected hogs are slaughtered each year in the U.S., which in turn yields approximately 36 million potentially infected meals.[8] Continued emphasis on the importance of thoroughly cooking pork is necessary for the control of human trichinosis cases in the U.S. ❑

The Authors

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References

1. Centers for Disease Control. Summary of notifiable diseases, United States, 1994 (Vol. 43). *MMWR* 1995;53:70-79.
2. Bailey TM, Schantz PM. Trends in the incidence and transmission patterns of trichinosis in humans in the United States: Comparisons of the periods 1975-1981 and 1982-1986. *Rev Infect Dis* 1990;12:5-11.
3. Centers for Disease Control. Outbreak of trichinellosis associated with eating cougar jerky. *MMWR* 1996;45:205-206.
4. McAuley JB, Michelson MK, Hightower AW, Engeran S, Wintermeyer LA, Schantz PM. A trichinosis outbreak among Southeast Asian refugees. *Am J of Epidemiology* 1992; 135:1404-1410.
5. Stehr-Green JK, Schantz PM. Trichinosis in Southeast Asian refugees in the United States. *Am J Public Health* 1986, 76:1238-1239.
6. Barrett-Connor E. Latent and chronic infections imported from Southeast Asia. *JAMA* 1978;239:1906-1910.
7. Erickson RV, Hoang GN. Health problems among Indochinese refugees. *Am J Public Health* 1980;70:1003-1005.
8. Murrell KD, Bruschi F. Clinical Trichinosis. In: Sun T, ed. *Progress in Clinical Parasitology*. Boca Raton, Fla: CRC Press, Inc; 1995:117-149.

Optometrists lose their photorefractive keratectomy suit in Idaho

An Idaho state court ruled last month that optometrists are not authorized to perform photorefractive keratectomy (PRK) and other types of ophthalmic laser surgery.

The suit was brought by the Idaho Medical Association, Idaho Society of Ophthalmology and the American Academy of Ophthalmology. The medical groups' complaint asked the court to overturn the recent declaration by the Idaho Board of Optometry which had defined PRK within optometrists scope of practice. No state legislature has ever authorized optometrists to perform laser surgery. Forty-six states expressly prohibit optometrists from performing surgery and 35 of these states specifically prohibit any laser surgery including PRK.

The following issues were addressed in the court ruling:

1. That photorefractive keratectomy is surgery, as the term is most commonly defined. It is an invasive procedure which permanently alters the tissue of the human body. The use of a "light knife" instead of a steel surgical knife to achieve this result does not alter the analysis.

2. From the language of the Idaho Optometry Act, the definition of optometry is not sufficiently broad to encompass the performance of surgery by optometrists. The Idaho State Board of Optometry has not been vested with the power to enlarge the scope of the practice of optometry or to authorize the use of the excimer laser to perform PRK procedures by optometrists who are not medical doctors.

3. The written interpretation of law issued by the Idaho Optometry Board in October 1995 is a rule which was not promulgated under Idaho rulemaking procedures. Because the Idaho Optometric Board did not have the statutory authority to issue this rule, the rule will be set aside.

4. It is beyond the power of the Optometric Board to unilaterally promulgate a rule which expands the scope of the practice of optometry to include the performance of surgery.

5. The argument that the Idaho Optometry Board, which permits an optometrist to use "any means" for the improvement of human vision, and that this phrase may be expanded to include surgery, is without merit. J

Dr. Boyd Shook becomes president of ASIM

M. Boyd Shook, MD, an Oklahoma City internist who subspecializes in hematology, has been voted president of the American Society of Internal Medical (ASIM). Dr. Shook is associate chief of staff for ambulatory care at the Veterans Administration Medical Center in Oklahoma City and is a clinical professor of medicine at the University of Oklahoma. He has practiced internal medicine in Oklahoma City for 30 years.

Dr. Shook also is a member of the Board of Trustees of the Internal Medicine Center to Advance Research and Education, a subsidiary of ASIM. He has served on the Board of Directors and as secretary of the Commission on Office Laboratory Accreditation. In the mid-1980s, he was an active participant in the American Medical Association's Health Policy Agenda for the American People project.

Dr. Shook is a past president of the Oklahoma County Medical Society, Oklahoma Society of Clinical Oncology, Oklahoma Society of Internal Medicine, Oklahoma Foundation for Peer Review (now Oklahoma Foundation for Medical Quality), and the Physicians' Medical Plan of Oklahoma. He holds a medical degree from George Washington University, was certified by the American Board of Internal Medicine in 1979, and recently completed an MBA at Oklahoma City University. J

Managed Care Task Force meets in Tulsa

The Oklahoma State Senate's Managed Care Task Force met for the second time last month in Tulsa. Woodward family physician John C. Leatherman, MD, an OSMA member recently appointed to the task force, attended the meeting. Other OSMA and task force members present in Tulsa were Eldon V. Gibson, MD, Shawnee, and C. Wallace Hooser, MD, and David Holloway, MD, Tulsa. Edward N. Brandt, Jr., MD, chair of the OSMA Council on State Legislation and Regulation, attended the meeting as an observer along with OSMA Associate

Managed Care *(continued)*

Director Vickie Rankin and OSMA lobbyist Lynn White. The task force's co-chairs, George Singer and Mike Duncan, believe the focus of the task force should be "to make these services accountable in monetary terms, as well as in terms of quality and accountability."

The task force broke into work groups and identified five priority issues for future examination and discussion: (1) quality assessment, focusing on outcomes research, accountability and systems comparisons; (2) information sharing with an emphasis on consumer and provider relations; (3) access, particularly in rural areas and emergency room situations; (4) Medicaid with special emphasis placed on societal marketing, vulnerable populations, and rural access; and (5) regulation and oversight. Other issues were: liability, provider risk bearing, long term care, and the impact of managed care on medical education.

AMPAC Campaign School set for spring

The American Medical Political Action Committee (AMPAC) will hold its next Campaign School February 19-23, 1997, at the Latham Hotel in the Georgetown section of Washington, D.C. The Campaign School is designed for AMA members and their spouses who are seeking a better understanding of the political process and to encourage involvement in political campaigns. It is the only bipartisan program of its kind. AMPAC will waive the registration fee, reimburse airfare, and provide course materials and daytime meals for AMA members and their spouses who attend the program. Participants are responsible for lodging and evening meals. Interested physicians or spouses should contact OSMA Associate Director Vickie Rankin or Administrative Assistant Bobbie Brown.

OSMA board seeks award nominees by Feb. 1

February 1, 1997, is the deadline for nominations for the Ayerst Wyeth Physician Award for Community Service and the Donald J. Blair Friend of Medicine Award. The service award goes to a physician who, in addition to his or her medical practice, has contributed significantly to the community. The Blair Award, formerly the Layman of the Year Award, is presented to a non-physician for his or her support of the art and science of medicine in Oklahoma. Winners are selected by the OSMA Board of Trustees at their February meeting each year and the awards are presented at the Annual Meeting of the OSMA House of Delegates in April. Nominations for both awards should be sent with supporting material to Robert J. Weedn, MD, chair of the OSMA Board of Trustees, c/o OSMA, 601 West I-44 Service Road, Oklahoma City, OK 73118.

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HEALTH DEPARTMENT

Communicable Disease Reporting

On May 2, 1993, a 34-year-old male had onset of hepatitis A. The case was not reported by his physician to the state health department until one month later on June 3, making it impossible to prevent transmission to his contacts. Consequently, on June 4, one of his contacts, a 46-year-old male developed acute hepatitis A. The scenario was repeated for three generations of disease and resulted in transmission to 22 individuals (18 adults and 4 children). This example illustrates how delays in reporting can seriously affect the health of the community. Prompt reporting could have prevented 21 cases of disease, at least 360 days of lost work/productivity, and thousands of dollars in medical expenses. Prompt and complete reporting of disease is essential to interrupting the chain of transmission and protecting the public's health. In 1995 alone, hundreds of cases of hepatitis A were prevented through coordination with reporting sources, e.g., physicians and laboratories, and public health workers who, upon notification of acute cases, identified and administered immune globulin to contacts.

Communicable disease reporting has been an essential element in monitoring and maintaining the health of the public in Oklahoma for more than 75 years. In 1917, a law was enacted requiring physicians to report all cases of infectious and communicable diseases. During that year, diphtheria, scarlet fever, smallpox, measles, and typhoid fever were among the most commonly reported diseases. In comparison, the most commonly reported diseases in 1995 were gonorrhea (5,652), hepatitis A (1,427 cases), salmonellosis (452 cases), campylobacteriosis (289 cases), acquired immune deficiency syndrome (269), shigellosis (246 cases), and tuberculosis (237 cases). The 1917 diseases had the following numbers in 1995: diphtheria (0 cases), scarlet fever (0 cases), smallpox (0 cases), measles (0 cases), and typhoid fever (1 case). Although the prevalence of specific diseases has changed, communicable disease reporting is still an important public health focus.

Reporting of certain communicable diseases is required as stated in Oklahoma Title 63, Section 1-503 of the Oklahoma Public Health Code: "The State Board of Health promulgate rules and regulations establishing a system of reporting of cases of diseases diagnosed or detected by practicing

(continued)

REPORTABLE DISEASE CARD

PLEASE ANSWER **EACH** QUESTION:

DISEASE _____

PATIENT'S NAME _____

ADDRESS _____

Date of Onset of Symptoms ____ / ____ / ____

Date of Specimen Collection/Receipt ____ / ____ / ____

Date of this Report ____ / ____ / ____

Date Of Birth ____ / ____ / ____

CITY _____ **ZIP** _____ **CO.** _____ **PHONE** ( )

AGE _____ ☐ YEARS ☐ MONTHS ☐ DAYS

SEX ☐ MALE ☐ FEMALE

RACE ☐ WHITE ☐ BLACK ☐ ASIAN ☐ AMER. IND. ☐ OTHER

HISPANIC ETHNICITY ☐ YES ☐ NO

In the past 6 weeks, has patient had contact with a day care center, nursery or institution (i.e. nursing home, prison, mental health facility, etc.)?

☐ Patient attends/lives in DCC/nursery/institution
☐ Patient works in DCC/nursery/institution
☐ Patient has family in DCC/nursery
☐ None of the above
☐ Unknown

Name of establishment: _____

City: _____

Does patient work as a foodhandler or health care worker?

☐ Foodhandler
☐ Health care worker
☐ Neither
☐ Unknown

Name of establishment and city: _____

How was diagnosis made? ☐ Clinical ☐ Laboratory

List results of pertinent lab test (i.e. culture or serology) →

Hepatitis B only: ☐ Acute Case ☐ Chronic Case

Was patient hospitalized?

☐ Yes: name of hospital _____
☐ No

Did the patient die?

☐ Survived
☐ Died: Date of death ____ / ____ / ____

If this disease may have been acquired through the patient's occupation or hobby, please list the occupation or hobby.

_____

Reporting Source: ☐ PHYSICIAN ☐ HOSPITAL/ ICP ☐ LABORATORY ☐ OTHER

Name of person reporting _____

Facility name _____

Address _____

City _____ State _____ Zip _____ Phone ( )

Name of attending physician _____ Phone ( )

NEED MORE CARDS? ☐ YES
Name & address if different from left

_____

ODH FORM 295
(REV 4/95)

physicians and/or clinical laboratories which come within the purview of this article." This means Oklahoma requires that health care providers, including physicians, laboratories, and county health departments, report diseases of public health importance to the state health department. The Communicable Disease Division (CDD) of the Acute Disease Service of the Oklahoma State Department of Health (OSDH) coordinate the surveillance, control, and prevention of over 50 reportable diseases. Oklahoma, like most other states, has a surveillance system in which physicians, laboratories, infection control practitioners and others submit disease reports by telephone or mail. In 1995, 4,468 reports were received by the CDD. Generally, these reports contain information including the name, demographic data, and information on occupational settings which may pose a threat to the health of the public. Each report is investigated according to specific guidelines for that particular disease. The CDD also investigates and consults on many diseases that are not reportable, participates in local and national investigations of diseases, is involved in public health education, and publishes the Oklahoma Epidemiology Bulletin four times a year (which contains the current statewide disease statistics and information regarding current issues and events in public health).

Disease surveillance is also important for the purpose of health planning. It is only through routine reporting of diseases that we are able to define the most significant health problems affecting the population and which ones therefore require the most resources. Moreover, without a surveillance system it is not possible to evaluate the effectiveness of interventions, such as vaccines or other preventive interventions. The ability to set priorities and evaluate efficacy is essential in today's world of dwindling health-care resources.

A list of Oklahoma's reportable communicable diseases and those requiring prompt telephone reporting is listed on the blue Reportable Disease Card, ODH Form No. 295 (rev. 4/95). Please contact the appropriate division of the OSDH (Fig. 1) for further information concerning reporting these diseases. Diseases should be reported using the blue Reportable Disease Card unless otherwise noted. A copy of the Reportable Disease Card is shown in Figure 2. Please feel free to copy the card and use it for reporting by either faxing (800) 898-6734 or mailing to the Oklahoma State Department of Health, Communicable Disease Division-0305, 1000 Northeast 10th Street, Oklahoma City, OK, 73117-9899. (If more Reportable Disease Cards are needed, check the appropriate box in the

REPORTABLE DISEASES/CONDITIONS IN OKLAHOMA

DISEASES IN **BOLDED CAPITAL LETTERS** *NEED TO BE REPORTED PROMPTLY BY TELEPHONE*

I. INFECTIOUS DISEASES

AIDS (Acquired Immune Deficiency Syndrome) ❖

Amebiasis (*E. histolytica*)

Anthrax (*B. anthracis*)

BOTULISM

Brucellosis

Campylobacter infection

Chlamydia *

CHOLERA

Congenital Rubella Syndrome

DIPHTHERIA

***E.coli* 0157:H7 (HUS and TTP)**

Encephalitis

Giardiasis

Gonorrhea *

***HAEMOPHILUS INFLUENZAE* INVASIVE DISEASE**

HEPATITIS A (anti-HAV-IgM+)

Hepatitis B (acute and chronic)

Hepatitis Non-A, Non-B (includes Hepatitis C)

Hepatitis, unspecified

HIV Infection (Human Immunodeficiency Virus) ◆

Kawasaki Disease

Legionnaires' Disease

Leptospirosis

Lyme Disease

Malaria

MEASLES (RUBEOLA)

MENINGOCOCCAL INFECTION

Mumps

PERTUSSIS

PLAGUE *(Y. pestis)*

Poliomyelitis

RABIES *(Human)*

Reye Syndrome

Rocky Mountain Spotted Fever

Rubella

Salmonella infection

Shigella infection

Syphilis *

Tetanus

Toxic Shock Syndrome

Tuberculosis

Tularemia (*F. tularensis*)

TYPHOID FEVER

Yellow Fever

II. NON-INFECTIOUS CONDITIONS

INJURIES (Hospitalized) †

Burns

Spinal Cord Injuries

Drownings & Near Drownings

Traumatic Brain Injuries

OCCUPATIONAL

Asbestosis

Lead Poisoning (Adults & Children > 10mg/dL)

Coal Miner's Pneumoconiosis

Silicosis

III. ALSO REPORTABLE

Outbreaks of any kind

Unusual syndrome

Uncommon disease

† To report injuries, please use ODH Form No. 390

❖ To report AIDS, please use CDC 50.42A (adults) or CDC 50.42B (children < 13 years)

◆ To report HIV, please use CDC 50.115 (physician) or ODH Form No. 210 (lab)

* To report Chlamydia, Gonorrhea or Syphilis please use ODH Form No. 228

HIV/STD Service
(405) 271-4636

Communicable Diseases Division
(405) 271-4060

Immunization Division
(405) 271-4073

Injury Division
(405) 271-3430

"THE COMMISSIONER OF HEALTH MAY DESIGNATE ANY DISEASE OR CONDITION AS REPORTABLE FOR A DESIGNATED PERIOD OF TIME FOR THE PURPOSE OF SPECIAL INVESTIGATION"

Title 63 O.S., Section 1-106

bottom right corner of the first report card before faxing or sending.)

We appreciate the efforts of all physicians, laboratory personnel, infection control practitioners, county health department personnel, and other health care professionals, who have reported communicable diseases to the state health department and we look forward to working with them and new reporting sources in the future. If you have questions regarding the Oklahoma reporting system, need blue reporting cards, or would like to be included on the mailing list for the Oklahoma Epidemiology Bulletin, please contact Mike Crutcher, MD, MPH, State Epidemiologist; Lauri Smithee, MS, Director, CDD; or Tim Graves, MPH, Surveillance Officer, CDD, at (405) 271-4060. J

Prepared by Tim Graves, MPH, Staff Epidemiologist, Surveillance Officer, CDD, OSDH.

Classifieds

Classified ads are 50 cents a word, with a minimum of $25 per ad. A word is one or more characters bounded by spaces. Box numbers will be assigned upon request and will add 6 words to the total. Payment must accompany all submissions. Orders will NOT be accepted via telephone or fax. Mail ad with payment to OSMA JOURNAL, 601 Northwest Expressway, Oklahoma City, OK 73118. Deadline is the first of the month preceding the month of publication.

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Deaths

Leslie Arvin Arneson, MD
1933 - 1996

Edmond resident Leslie A. Arneson, MD, died September 26, 1996. A native of Garretson, S.D., Dr. Arneson was graduated Summa Cum Laude in 1959 from Northwestern University Medical School in Chicago. He completed an internship at Trippler U.S. Army Hospital in Honolulu and a residency at Fitzsimons U.S. Army Hospital in Denver. Dr. Arneson served one tour of active duty in Vietnam with the U.S. Army, retiring in 1981 as a colonel. He was on staff at the Oklahoma City Clinic for 15 years as a family physician with a subspecialty in gastroenterology.

Bertram Edward Sears, MD
1930 - 1996

Bertram E. Sears, MD, died October 4, 1996, in Oklahoma City. Born in 1930, Dr. Sears earned his medical degree in 1958 from Meharry Medical College in Nashville, Tenn. He served his internship in Michigan and completed an anesthesiology residency at the University of Oklahoma in 1964. On his retirement in 1990 from Children's Hospital, he was honored with the dedication of the Bertram E. Sears, MD, Post Anesthesia Care Unit. When he retired from the university in March of this year, he was named professor emeritus of anesthesiology. Dr. Sears was a Life Member of OSMA. J

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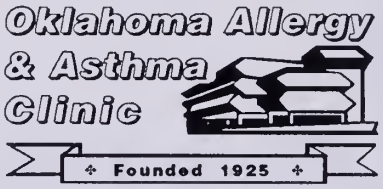

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And the legislative train revs up again... Don't get left standing at the station!

The day has come and gone. What day? Election Day. Many of us are breathing a sigh of relief. The ads get back to normal, the phone doesn't ring every night at dinner with some fundraiser either from Washington or our own state of Oklahoma wanting more money. The political signs along the highway are beginning to disappear. You can begin to stop hearing on television or reading in the newspaper that every candidate running is promising everything you could ever hope to have... which we all know is a lot of political rhetoric for the most part. Normalcy can set in again. Normalcy, I said... not apathy! I hope each of you was successful in winning with all the votes you cast. And I certainly hope that every person reading this was out there performing that basic right and responsibility that our forefathers saw clear to provide... the right to cast your vote for the person of your choice.

Now it's time to start thinking about what those elected officials at the state capitol and our nation's capitol are going to do to us... or for us. It's time to make sure that those who were elected to represent you know who you are, what proposed legislation is important to you and why, and that you are available to serve as an advocate and expert when it comes to legislation affecting the practice of medicine and the healthcare made available to our citizens. Who better than us can let those lawmakers know?

Finally, we're fortunate in that we now have physicians serving in Washington who can let their colleagues, other Senators and Congressmen, know the importance of enacting sound medical legislation. They can let their colleagues know what can be the result of the legislation they propose to pass. But we can't expect those physicians to do it all by themselves... we, the experts out in the trenches, must lend our support whenever it is needed. The AMA has its own home page and address on the Internet which will let you know what is going on in Washington, what you can do to help. That address is <http://www.ama-asm.org/adwom/roots/index.htm>. Fire up the computer and log on!

As far as working here at home, get to know the senator and representative from your district. It's as simple as introducing yourself. Make the time to call their office before it's crunch time and you have to call regarding a piece of legislation. When your alliance is sponsoring an event designed to get your legislators together with physicians and spouses, make it a priority to attend. One simple and effective way to get to "know" your elected officials is for several medical families to get together and host a coffee-and-dessert session some evening for the legislator(s) and other physicians in your district. Be sure and set up the date with the legislators first to ensure their attendance. Small functions such as these help ensure that everyone gets to meet and talk with their legislators. You'll be surprised how effective that effort is when it's time for you to contact that legislator regarding a proposed bill.

And when the Oklahoma legislature gets down to business in February, keep your ear tuned to what is going on. The OSMA has its own home page now to keep us better informed about what is happening in our own state. That address on your computer is <http://www.osmaonline.org>. Add that to your computer bookmarks to make calling it up easy. Speaking of calling... when you receive a fax or an e-mail or a letter asking you to make a phone call to your legislators in Oklahoma or Washington, don't put it off... you wouldn't be asked to participate if it weren't important. We have great lobbyists. They do a great job for us. But that isn't enough... those elected officials want to know what their constituents back home think, how that proposed legislation will affect "how Aunt Jane can be seen by her doctor." You physicians are the best sources for that information. And when those legislators aren't hearing from you, their response is, "My doctors aren't calling me letting me know what they think." *Don't let apathy determine further how you are going to practice medicine in Oklahoma.* And don't think you can let your medical colleagues take care of it for you... it's important that *all of us let our voices be heard!* It may be your phone call which tips the scales as to what vote that legislator will cast. You may make the difference in the defeat of an onerous bill or the passage of sound legislation. Can you take the chance that your phone call won't make the difference? I don't think so!

As seems to be the case each year, we'll again be faced with non-physician groups wanting physician privileges. Be ready to act. Read those faxes, read those home pages, and make those phone calls when you're asked to do so. Become proactive if you haven't done so in the past. Don't let those lawmakers say, "I haven't heard from my physician." Make a promise to yourself and to your patients that you'll be involved. You'll be glad you made that choice. And so will medicine! When that legislative train takes off, don't get left standing at the station!

—*Sherry S. Strebel*
Alliance Legislative Chair

THE LAST WORD

■ **Oklahoma City otorhinolaryngologist Jack V. Hough,** MD, has received the third annual Salt and Light Award from the Oklahoma City chapter of the Christian Business Men's Committee of USA. Dr. Hough was a pioneer in the field of microscopic ear surgery and has perfected several surgical instruments and techniques for hearing restoration and middle-ear reconstruction. He was chosen for the award because of his contributions to the international medical community and to the poor and disaster-stricken in Third World countries.

■ **Another Oklahoma physician has been informed by** the Internal Revenue Service that he must switch from a cash to an accrual accounting method. The physician is an oncologist in solo practice in Oklahoma City. Last December, the Oklahoma Allergy & Asthma Clinic received similar instructions from the IRS. The clinic has challenged the IRS. The American Medical Association is aware of the situation and has been in contact with the IRS. Physicians who have been contacted by the IRS about accrual accounting should notify OSMA Executive Director Mike Sulzycki.

■ **The United States Supreme Court has agreed to take** up the issue of whether or not physician-assisted suicide is a constitutional right. "We are extremely pleased that the highest court in the land will make a decision regarding the constitutionality of what we feel is a misguided and unethical practice. To in any way condone physician-assisted suicide would so dramatically and fundamentally change the entire patient/physician relationship that it would undermine the very principles that we, as a society, hold most dear," said Nancy Dickey, MD, chair of the AMA Board of Trustees.

■ **OSMA Secretary-Treasurer Carol B. Imes, MD, is one** of fifty Oklahoma businesswomen named last month as finalists for the 15th Annual *Journal Record* Woman of the Year Award. Previously known as the Corporate Woman Award, the honor recognizes excellence in Oklahoma business. This year's finalists also were recognized in a special publication, *Fifty Making a Difference,* scheduled to be released last month. One of the fifty finalists was to be named the *Journal Record* Woman of the Year at an awards dinner October 30.

■ **V. Lee Vinyard, MD, was named an OSMA Life Member** at the October meeting of the OSMA Board of Trustees. Dr. Vinyard is a retired general practitioner from Bartlesville.

■ **The Oklahoma Society of Internal Medicine (OSIM)** was named Component Society of the Year by the American Society of Internal Medicine (ASIM) at its 40th Anniversay Annual Meeting in Chicago last month. ASIM awards the annual honor to the state component society considered to be the most outstanding in leadership, operations, and achievements each year. OSIM won the award based on its membership recruitment increase; active third party relations committee that meets regularly with Medicare officials; strong support of ASIM's political action committee and its key congressional contact program; thought-provoking president's letters by current President Dean Drooby, MD; establishment of a managed care committee to answer members' questions about experiences with managed care organizations and hospitals; relationship with Oklahoma's medical schools; and 10% annual membership meeting attendance increase.

■ **Tulsa surgeon C.T. Thompson, MD, is the interim chief** executive officer for Saint Francis Hospital. Dr. Thompson has been chair of the executive committee of the Saint Francis board since 1972. He is a clinical professor of surgery at the University of Oklahoma College of Medicine–Tulsa, where an endowed professorship has been created in his name.

■ **Steve Katsis, MD, third-year resident, was named "Best** Resident Presentor" during Research Day at OUHSC–T earlier this fall. Dr. Katsis's award was presented by the Tulsa County Medical Society.

■ **A merger of two Tulsa medical practices has resulted** in a new corporation, the Urologic Specialists of Oklahoma, Inc. Joined in the merger were the former Tulsa Urologic Clinic, Inc., and Associated Urologists, Inc.

■ **Entries for this year's Mark R. Johnson Excellence in** Medical Writing competition will be accepted by the JOURNAL through December 31. Students and resident on either University of Oklahoma College of Medicine campus are eligible to enter original manuscripts. The winner of the $500 cash award will be determined by the JOURNAL's Editorial Board in March and the award will be presented at the Annual Meeting of the OSMA House of Delegates in April. Entries received after the December 31 deadline will be considered in next year's competition.

■ **Readers are welcome to submit the names of candi**dates for the JOURNAL's ongoing Leaders in Medicine series. Last month's biography on Dr. Rayburne W. Goen, Sr., of Tulsa was the 32nd in the series, which was begun in 1981. Suggestions should be directed to Susan Records, Director of Publications, OSMA, 601 West I-44 Service Road, Oklahoma City, OK 73118. J

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EDITORIAL
The Road More Traveled 419
R.V. McIntyre, Kingfisher

PRESIDENT'S PAGE
Integrity and Ethics in Medicine 421
D.L. Harper, Tulsa

SCIENTIFIC
Carotid Endarterectomy in Oklahoma Medicare Beneficiaries: Patient Characteristics and Outcomes 423
D.W. Bratzler, W.H. Oehlert, C.K. Murray, L.J. Bumpus, L.L. Moore, D.S. Piatt; Oklahoma City

The Merits of Varicalla Vaccination for Varicella Non-Immune Health Care Workers 430
C.G. Wlodaver, T. Privett, G. Livengood; Oklahoma City

SPECIAL
OAFP Starts Practice-based Resource/Research Network 433
J.W. Mold, E.D. Barton; Oklahoma City

Pramsgram: Prenatal Weight Gain and Birth Weight Among Oklahoma Mothers 435

INDEX TO 1996 CONTENTS 446

NEWS
Council on State Legislation sets goals for '97, 439... New OSMA service: Centralized credentialing through OCVO, 439... McAfee touts AMA's accreditation program during state visit, 440... Managed Care Task Force meets four times by end of December, 441... Osteopathic board votes to endorse PLICO liability coverage, 442... PLICO to raise its professional liability rates, 442... Nursing board discusses prescription authority, 442... Award nominations still be sought, 442... Council warns against Jayhawk plan, 443... OSMA council says health of Oklahomans well below average national figures, 443... Journal asks reader input for Leaders, pics, 443... Specialists' output vs. primary care doctors', 443...

DEPARTMENTS
In Memoriam, 441... Deaths, 445... Classifieds, 450... Alliance, 455... The Last Word, 456...

ABOUT THE COVER
Chickasha's dazzling holiday Festival of Lights was accented by a full moon when William S. Harrison, MD, a Chickasha resident, took this photo.

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EDITORIAL

The Road More Traveled

When we take time to pause and think and wonder where we, as a nation, are going, we take note that every national election is somewhat like a fork in the road of travel of our society. In a democratic republic such as the Untied States, every vote cast is a preference for one road or the other in our national life.

That public office holders' character, vision, and ethics affect the route our nation will travel is unusually evident now in our American Society. But the enduring resilience of the United States lies in the fact that while our elected officials may affect our route of travel, they can never totally control it. Our nation's destiny is only partially and temporarily in their just-elected hands.

Two years hence the voters may select a different Congress, and four years hence another presidential election will occur. Since no politician can fool all the people all the time, our biennial road fork selections partially reassert the will of the whole people each time that it occurs.

Unfortunately, it seems that general citizen input into our nation's governance is relatively ineffective between elections. Only when a large and identified group agrees in one voice with a publicized political project does our citizen input ever take effect between elections. Public officials usually respond to voting blocs, and an impending election is often necessary for our politicians to hear the ordinary citizen's viewpoint—if the views are articulated. A continuous citizen input into the governance of a democratic republic is forever necessary, and this truism holds for our United States today.

Over the long road of our national life, ideas do eventually have consequences. Some programs work and some do not; some programs work for a time and then fail, or are altered. Our national biennial elections clarify the electorate's view of these programs and advance the day of problem resolution. The populace has become more aware that a lot of bad socialism and statism have been inadvertently included in our health care programs. It is now more widely understood that government is a meager source of everyday health care.

Further, the general citizenry has become more aware that large government health care programs have negatively effected our medical economics. The buying and selling of health care have fallen under the control of amoral government bureaus and insurance agents, to the detriment of patient autonomy.

Thus we physicians are again at a place along our national road of travel that we must transcend politics and rededicate ourselves to the proposition that the delivery of good medical care is a personal equation between two individual human beings. We have a moral duty to make our health care system work, regardless of the politics of the President and the Congress.

Kay V. McIntyre, M.D.

The general citizenry has become more aware that large government health care programs have negatively effected our medical economics.

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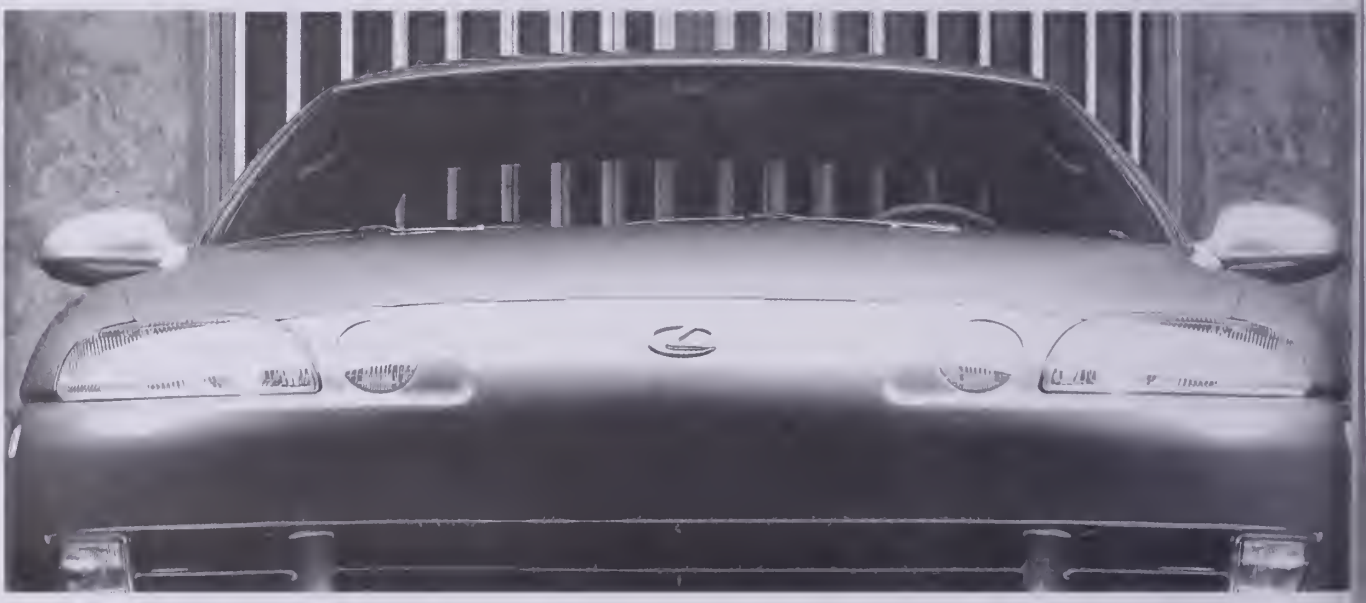

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Integrity and Ethics in Medicine

The profession of medicine is now in many ways a business with different terminology—customers and clients instead of patients, and providers instead of physicians. There are many times when there may be a fine line between being a profession and being a business; but our patients expect that, when it comes to decisions regarding their well-being and health, we will be physicians and patient advocates first and businessmen a distant second.

Managed care has brought some efficiencies and improvements, but it has also brought third parties that in some instances have taken unconscionable profits at the expense of fair and quality healthcare delivery. These for-profit organizations have as their primary goal the making of profits for investors, not the delivery of high quality healthcare. Under capitation schemes, ethical dilemmas may abound when physicians have a financial incentive in withholding care from patients.

In many ways, we feel as though we have lost control of the system and look for outside forces to blame. But ultimately we as physicians, along with our patients, make the important decisions with regard to care; and we as physicians must strive to treat each patient as we ourselves would want to be treated or as we would want one of our family members treated.

We as physicians must not let these new pressures obviate the doctor-patient relationship. We cannot let the moral and ethical underpinnings of our profession be affected and must maintain our integrity. Remember that our client is, in reality, our patient; that his or her interest must be our primary concern; that we always should strive to "first do no harm"; and that we must, under every circumstance in dealing with hospitals and insurance companies, be our patient's best advocate.

We physicians should work to maintain the integrity of medicine during a time of healthcare reform and change. We should ever strive to keep the practice of medicine as a profession, not just as a job. Remember the many benefits of practicing medicine as well as the responsibilities, because it is more than a job under any healthcare system.

We as physicians must not let these new pressures obviate the doctor-patient relationship.

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AIR FORCE

Carotid Endarterectomy in Oklahoma Medicare Beneficiaries: Patient Characteristics and Outcomes

Dole W. Brotzler, DO, MPH; W. H. Oehlert, MD; Cynthia K. Murray, PhD; Liso J. Bumpus, RN; Lori L. Moore, RN; Donno S. Piott, RN

Background and Objectives. Ischemic stroke represents the third leading couse of deoth ond the most common cause of permanent disability in the United Stotes. Corotid endorterectomy hos been widely utilized os o procedure to reduce the risk of stroke ond represents the most commonly performed peripherol orteriol surgery. This cooperotive project wos initioted to assess the appropriotenesss of carotid endorterectomies performed on Medicare beneficiories ond the postoperative outcomes (mortolity ond stroke) in these patients.

Methods. Retrospective review wos performed on the inpatient medical records of 774 patients who underwent 813 corotid endarterectomy procedures in eight hospitals during calendor yeors 1993 ond 1994. Medicare cloims dota were also onolyzed for all carotid endorterectomies performed in Oklahomo during calendar yeors 1992 through 1995.

Results. A history of tronsient ischemic attock or stroke in the distribution of the operoted carotid artery was documented in 57% of the coses. The majority of potients hod preoperotive ultrosound imaging of the corotid orteries and a preoperative angiogram was performed before 96% of the procedures. Accepted indicotions for the surgery were documented for 98% of the procedures. Stroke or death within 30 days of the date of the carotid endarterectomy occurred after 4.9% (0-8.8% by hospitol) of the procedures.

Conclusions. This project demonstroted consideroble voriotion between hospitals in the outcomes of patients undergoing corotid endarterectomy ond the potentiol for improved care of potients with regord to dischorge plonning, educotion, and use of anticoagulant or ontiplotelet medicotions postoperatively.

Ischemic stroke is among the leading causes of death and disability in the United States. In 1990, stroke was the third leading cause of death accounting for almost 150,000 deaths in the United States.[1] Stroke is the leading cause of adult disability and it is estimated that more than 3,000,000 Americans are permanently disabled because of stroke. The National Stroke Association estimates that the annual economic expenses of stroke due to health care costs and lost productivity are more than $30 billion in the United States alone. Approximately two-thirds of all strokes occur in people age 65 and over.

Carotid endarterectomy, the most commonly performed peripheral arterial surgical procedure in the United States, was first introduced in 1954

The analyses upon which this publication is based were performed under Contract #500-92-0619, entitled, "Fourth Scope Peer Review Organization Contract for the period from 1 October, 1993 through 25 September, 1996," sponsored by the Health Care Financing Administration, Department of Health and Human Services. The conclusions and opinions expressed, and methods used herein are those of the author. They do not necessarily reflect HCFA policy. The author assumes full responsibility for the accuracy and completeness of the ideas presented. This article is a direct result of the Health Care Quality Improvement Program initiated by HCFA, which has encouraged identification of patterns of care, and therefore required no special funding on the part of this Contractor. Ideas and contributions to the author concerning experience in engaging issues presented are welcomed.

Direct correspondence to Dale W. Bratzler, DO, MPH, Oklahoma Foundation for Medical Quality, Inc., 5801 Broadway Extension, Suite 400, Oklahoma City, OK 73118-9984.

and has been widely utilized to prevent cerebral infarction.[2] Prior to 1991, there was very little data demonstrating a treatment benefit of performing carotid endarterectomy as compared to medical management of carotid stenosis.[3,4] Throughout the 1970s and 1980s, there was a marked increase in the number of procedures performed in the United States. During this time, considerable variation in the frequency of carotid endarterectomy among regions of the United States and endarterectomy complication rates was demonstrated.[5] Since 1991, seven different randomized trials have been reported regarding the benefit of surgery in preventing ischemic stroke.[6-12] Three of the trials randomized patients with symptomatic carotid atherosclerosis and four of the trials enrolled asymptomatic patients.

The benefits of carotid endarterectomy in symptomatic patients have been clearly demonstrated. The North American Symptomatic Carotid Endarterectomy Trial (NASCET)[8], European Carotid Surgery Trial (ECST)[7], and the Veterans Administration Symptomatic Trial[9] all demonstrated significant reductions in stroke and death rates in patients with 70% or greater carotid stenosis randomized to surgery as compared to medical therapy in centers where the 30-day surgical morbidity and mortality rate was less than 6%. Patient enrollment continues in symptomatic patients with 30 to 69% carotid stenosis in both NASCET and ECST.

The benefits of surgery in asymptomatic patients are much less clear. The results of trials enrolling asymptomatic patients with carotid disease have been plagued by methodologic flaws in study design. The Carotid Artery Stenosis with Asymptomatic Narrowing: Operation versus Aspirin (CASANOVA)[6] trial did not demonstrate a significant difference between surgical and medical therapy in asymptomatic patients; however, nearly half of the non-surgery group of patients ended up undergoing carotid endarterectomy. The Mayo Asymptomatic Carotid Endarterectomy (MACE)[10] trial included too few observations of cerebral ischemic events to detect differences between surgical and medical patients. The Veterans Affair trial[11] of asymptomatic patients did demonstrate a treatment advantage of surgery over medical treatment in the prevention of the combined outcomes of stroke and transient ischemic attack; however, when transient ischemic events were removed from the analysis, the benefit of surgery was no longer statistically significant.

The most recently published trial of carotid endarterectomy in asymptomatic patients is the Asymptomatic Carotid Atherosclerosis Study (ACAS).[12] In this trial, 1,662 highly selected asymptomatic patients with 60% or more carotid stenosis were randomized to medical treatment (aspirin plus risk factor reduction) or surgical plus medical treatment. After a median follow-up of 2.7 years, the trial was stopped because of a treatment benefit of surgery over medical treatment. Kaplan-Meier estimates of event rates demonstrated a 53% relative risk reduction (5.9% absolute risk reduction) in the rate of stroke (p=0.004) among the surgical patients.

Table 1. Comorbid Conditions

Hypertension	71%
Coronary heart disease	67%
Hyperlipidemia	38%
Diabetes mellitus	26%
Cigarette smoking	26%
Chronic obstructive pulmonary disease	20%
Congestive heart failure	10%
Valvular heart disease	4%
Atrial fibrillation	3%
Dementia	2%
None	2%

To learn more about the performance of carotid endarterectomy on Medicare beneficiaries in Oklahoma, the Oklahoma Foundation for Medical Quality (OFMQ) initiated a cooperative project on carotid endarterectomy. The project was based on the guidelines for carotid endarterectomy published in early 1995 by the American Heart Association.[13] The objective of the project was to evaluate the appropriateness of carotid endarterectomies performed on Medicare beneficiaries and to assess postoperative outcomes (mortality and stroke) in these patients.

Methods

Based on Oklahoma Medicare claims data for calendar years 1993 and 1994, cases were identified from a group of eight hospitals that performed carotid endarterectomy (ICD-9-CM procedure code 38.12). The hospitals were divided into two groups based on number of procedures performed. Four high volume hospitals (defined as more than 100 Medicare carotid endarterectomy cases in the two years) and four low volume hospitals (less than 100 cases in this time frame) were selected for participation in the project. For this time frame, 100% of the carotid endarterectomy cases from each of these facilities were selected for review.

All cases selected were reviewed by OFMQ abstractors utilizing a standard data collection form. Along with administrative data, information regarding patient comorbid conditions, preoperative anticoagulant or antiplatelet medications,

and preoperative neurologic symptoms was collected. Information regarding preoperative diagnostic testing was recorded as well as the degree of carotid stenosis, when available in the medical record. Surgical information collected included the operative time, use of shunts, and use of heparin during the procedure. Postoperative care including utilization of intensive care unit monitoring, postoperative complications, and discharge education and instructions was recorded. Physician reading of the medical record was obtained on any case in which the arteriogram demonstrated less than 60% carotid stenosis or on which an arteriogram was not performed.

For the purposes of analysis, cases were classified as symptomatic or asymptomatic by applying the same criteria utilized in ACAS. A documented history of either a transient ischemic attack or stroke in the distribution of the operated carotid artery resulted in the case being classified as symptomatic. Documentation of nonspecific neurologic symptoms such as dizziness or syncope was not considered evidence of symptomatic carotid disease.

To ensure data reliability, a 5% random sample of cases was reviewed a second time by an independent abstractor. Between the two reviewers a 95% correlation on 10 pertinent variables was found. All cases initially designated as asymptomatic in the analysis were reviewed a second time to confirm the absence of a neurologic event (TIA or stroke) in the distribution of the operated artery.

Data regarding postoperative complications for the eight hospitals were obtained from two sources. Information regarding stroke or death during the hospitalization was collected from the medical record. This information was then merged with MedPRO data to identify patients who died or were readmitted to a hospital with a principal diagnosis of stroke (excluding those patients readmitted for a second carotid endarterectomy) within 30 days of the date of the carotid endarterectomy. Differences in outcomes between hospitals, hospital groups (high and low volume), and symptomatic and asymptomatic patients were analyzed with a two-tailed z-test or a chi-square analysis to determine statistical significance.

To profile the frequency of carotid endarterectomy in the Medicare population, MedPRO data for all carotid endarterectomies performed during calendar years 1992 through 1995 was analyzed. These data were also analyzed for deaths that occurred within 30-days of the operative procedure by hospital.

Results

There were 826 carotid endarterectomies performed on 787 patients in the eight hospitals. Because literature suggests that patients having carotid endarterectomy simultaneously with coronary artery bypass surgery or aortic aneurysm repair have higher rates of complications, 13 patients were eliminated from further analysis. This resulted in 774 patients undergoing 813 procedures available for analysis. The median age of the patients was 73 (range 44-92). The median length of stay in patients having only one carotid endarterectomy during their hospital stay was 4 days (range 0-37 days).

Comorbid conditions documented in the medical records of the patients are summarized in Table 1. Hypertension (71%) and coronary heart disease (67%) were the most commonly documented comorbidities, followed by hyperlipidemia (38%) and diabetes mellitus (26%). Patients were reported to be smokers in 26% of the cases.

The majority of patients (82%) were on some form of oral antiplatelet drug or anticoagulant on admission to the hospital. Aspirin (71%) was the most commonly utilized medication followed by warfarin (11%) and dipyridamole (9%).

Neurologic symptoms in the distribution of the operated artery were common in the patients admitted for carotid endarterectomy. A history of TIA or stroke was noted in 57% of the procedures performed. Patients were classified as asymptomatic in 43% of the procedures.

Preoperative diagnostic imaging was commonly documented in the medical records. The percentage of carotid stenosis was documented in an ultrasound imaging report in 44% of the surgical procedures. A preoperative angiogram was present in 96% of the records reviewed and the percentage of carotid stenosis was documented in 95% of those reports. Stenosis of greater than 60% was noted in the reports of 96% of the angiograms that were performed and plaque ulceration was noted in 33% of the angiogram reports.

The median operative time (patients undergoing carotid endarterectomy only) for the eight facilities was 65 minutes and ranged from 20 minutes to 5.3 hours. A carotid shunt was utilized in 74% of the procedures. Heparin was administered in 100% of the procedures most commonly as a bolus (99%). Heparin was reversed with protamine sulfate in 75% of the procedures.

Postoperative complications are summarized in Table 2. Approximately 14% of the patients had at least one complication documented during the surgical admission. The most common complication was sustained hypertension which occurred after 28 procedures (3%) followed by

Table 2. Complications in Hospital

None	86%
Hypertension	3%
Stroke	3%
Wound hematoma	2%
Pneumonia	2%
Death	1%
Transient ischemic attack	1%
Return to operating room	1%
Nerve palsy	1%
Acute congestive heart failure	<1%
Myocardial infarction	<1%
Wound infection	<1%
Other	3%

stroke documented after 22 procedures (3%). Wound hematoma occurred following 19 (2%) of the procedures, and postoperative pneumonia occurred in 16 (2%). The majority of patients received their immediate postoperative care in the intensive care unit (99%).

The majority of patients were discharged from the hospital on aspirin (80%). Warfarin was prescribed on discharge to 6% of the patients, and dipyridamole was prescribed to 13%. Antiplatelet or anticoagulant medications were not recommended for patients at discharge following 14% of the procedures based on documentation in the medical record. Smoking cessation education was documented in only 13% of the procedures performed on smoking patients, dietary modification education was documented following 82% of the procedures, and activity instructions given following 85% of the procedures.

In the development of this project, the multidisciplinary study group established criteria that any patient with symptomatic or asymptomatic carotid stenosis of greater than or equal to 60% or symptomatic carotid stenosis of less than 60% with documentation of failed anticoagulant therapy was considered to be an appropriate candidate for carotid endarterectomy. Based on these criteria, 795 (98%) of the carotid endarterectomies performed in the eight hospitals appeared to be indicated, 10 (1%) were not indicated, and

Table 3. Outcomes by Hospital and Symptom Status (1993-1994)

	Procedures			30-day Stroke		30-day Death		Total Events		
Hospital	Total	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym	All
H1	273	131	142	6	1	2	0	8	1	3.3%
H2	114	68	46	6	2	1	1	7	3	8.8%
H3	163	122	41	3	3	1	1	4	4	4.9%
H4	126	66	60	0	2	1	0	1	2	2.4%
		387	289	15	8	5	2	20	10	
High Volume Total	676			3.9%	2.8%	1.3%	0.7%	5.2%	3.5%	
		676		23		7		30		
				3.4%		1.0%*		4.4%		
L1	40	32	8	1	0	2	0	3	0	7.5%
L2	16	9	7	0	0	0	0	0	0	0%
L3	24	11	13	0	0	1	1	1	1	8.3%
L4	57	27	30	2	1	1	1	3	2	8.8%
		79	58	3	1	4	2	7	3	
Low Volume Total	137			3.8%	1.7%	5.1%	3.4%	8.9%	5.2%	
		137		4		6		10		
				2.9%		4.4%*		7.3%		
		466	347	18	9	9	4	27	13	
	813			3.9%	2.6%	1.9%	1.2%	5.8%	3.7%	
		813		27		13		40		
Total				3.3%		1.6%		4.9%		

Procedures associated with stroke and death are counted in the death column only.
*p=.004

in 8 cases (1%) we were unable to determine appropriateness of the procedure.

Postoperative and 30-day outcomes of death, stroke during the admission, and readmission for stroke are summarized in Table 3. There were a total of 676 procedures performed in the four high volume hospitals (mean 169, range 126-273) and 137 (mean 34.3, range 16-57) in the four low volume hospitals. There were 13 (1.6%) deaths that occurred within 30 days of the procedure in the 8 hospitals. The difference between the 7 deaths (1.0%) occurring within 30 days in the high volume hospitals and the 6 deaths (4.4%) which occurred in the low volume hospitals was statistically significant (p=.004). Stroke was documented within 30 days of the date of surgery in 27 (3.3%) patients. The difference between the 23 strokes (3.4%) that occurred within 30 days in the high volume hospitals and the 4 strokes (2.9%) that occurred in the low volume hospitals was not significant (p=.76).

Analysis of the combined outcomes of stroke or death within 30 days of the surgical date for the 8 hospitals revealed 40 (4.9%) events associated with the 813 procedures. There were 30 events (4.4%) in the four high volume hospitals and 10 events (7.3%) in the four low volume hospitals, and the difference was not statistically significant (p=.15). Combined event rates of 30-day death or stroke varied from 0% to 8.8% for the eight hospitals reviewed and was not statistically significant (p=.15).

Analysis of outcomes for asymptomatic versus symptomatic patients revealed expected trends with the events of stroke (2.6% vs. 3.9%) and death (1.2% vs. 1.9%) within 30 days of the surgical date. These differences were not statistically significant. Combined outcomes of stroke or death within 30 days of surgery occurred in 3.7% of the procedures on asymptomatic arteries and 5.8% of the procedures on symptomatic vessels. This difference was not statistically significant (p=.17).

The number of carotid endarterectomies in the Medicare population is increasing dramatically. There was a 35% increase in the number of procedures performed in 1995 as compared to 1994 (Fig. 1). The number of cases performed on Medicare beneficiaries in Oklahoma hospitals over the 4 years analyzed ranged from one to 523 procedures. There is also considerable variation in the percentage of deaths occurring within 30 days of the surgical procedure by hospital (Fig. 2). The 30-day mortality rate for all Medicare carotid endarterectomies identified from 1992 through 1995 was 1.9% (95% CI, 1.5 to 2.3). The mortality rate by hospital varied from 0% to 20% over this same time frame.

Figure 1. Caratid Endarterectomy in Oklahama Medicare Beneficiories

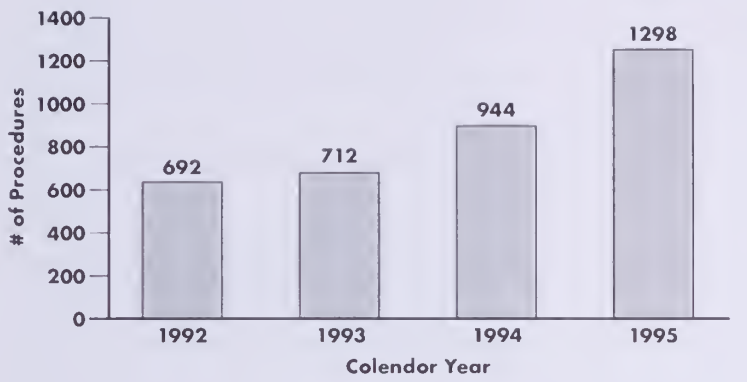
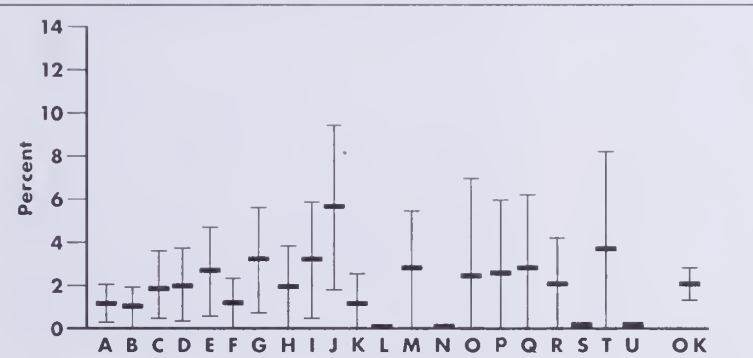


Figure 2. Mortolity Rate within 30 Doys of Corotid Endarterectamy in Medicore Beneficiaries (1992-1995)



Haspitals with an average af 10 or more corotid endorerectamies per year ronked occarding ta valume. (Actual martality and 95% confidence interval)

Discussion

Based on our review, patients undergoing carotid endarterectomy in this project consistently had carotid imaging studies that suggested hemodynamically significant carotid stenosis. Preoperative angiography was documented in nearly all patients and indications for endarterectomy were present in 98% of the records reviewed.

Combined event rates of 30-day death or stroke varied from 0% to 8.8% for the eight hospitals reviewed. Symptomatic patients had higher event rates than asymptomatic patients as expected.[14] To achieve benefit from this surgery, the American Heart Association guideline suggests that surgical morbidity and mortality (stroke or death within 30 days of surgery) should be less than 6% in symptomatic patients and 3% in asymptomatic patients. For the events of stroke or death within 30 days of surgery, five of the eight hos-

pitals had rates of greater than 6% for symptomatic arteries, and five of the eight hospitals had rates greater than 3% for procedures on asymptomatic arteries.

It is possible that the event rates reported in this project underestimate actual event rates. We identified postoperative strokes based on symptoms or physical findings documented in the medical record of the surgical admission or upon a coded diagnosis of stroke on readmission. Failure to document symptoms and findings or failure to code stroke as a reason for readmission would have prevented us from identifying these events. A recent review of studies published on the risk of stroke and/or death due to carotid endarterectomy revealed that reported event rates depended on the specialty of the physician providing postoperative assessment. The highest risk was reported in studies with neurologist assessment postoperatively and the lowest risk was reported in studies by single-surgeon authors.[15]

In our project, 43% of the procedures were performed on asymptomatic vessels based on record review. Although the majority of patients in this project had hemodynamically significant carotid stenosis consistent with the criteria utilized in ACAS, it may be difficult to compare our patient population to those evaluated in ACAS. The patients randomized in ACAS represented a highly select group with over 42,000 patients between the age of 40 and 79 (mean 67) screened for trial entry.[16] There were very stringent controls on the interpretation of carotid imaging studies in ACAS, and the method used to establish the severity of carotid artery stenosis is not widely used outside of the setting of recent, randomized trials. The surgical complication rate for the treatment group was very low (1.5% 30-day events of stroke or death), and participating surgeons had to meet established guidelines for approval to participate in the trial.[17] Applicability of the results of ACAS to the general population of asymptomatic patients with carotid stenosis remains controversial.[18-22]

Our review demonstrated that the majority (99%) of patients received their immediate postoperative care in the intensive care unit. At least one of the hospitals involved in the project had changed this practice to utilize less specialized care postoperatively for lower-risk patients subsequent to the dates of the records we reviewed. Several studies have suggested risk stratification schemes for carotid endarterectomy and have questioned the need for routine use of intensive care unit monitoring postoperatively.[23-27]

Finally, we demonstrated that documentation of risk factor education was frequently missing from the medical record. Only 12% of the smoking patients received counseling on smoking cessation, and 18% of the patients did not receive dietary instructions. Although the majority of patients were discharged on aspirin, 13% of the patients continued to receive dipyridamole, an agent with little proven efficacy, as the discharge medical therapy.[28-30]

Future Plans

On the basis of results from cooperative projects regarding carotid endarterectomy in at least five states including Oklahoma, the Kansas City Regional Office of the Health Care Financing Administration (HCFA) is coordinating a multistate project focusing on outcomes in Medicare beneficiaries undergoing carotid endarterectomy. The project will utilize HCFA's Clinical Data Abstraction Centers (CDACs) to measure outcomes for carotid endarterectomy from nine pilot states, including Oklahoma. Case sampling is expected to occur in late 1996 and will involve the review of admissions for carotid endarterectomy during 1995. In addition to the surgical admission, all patient readmissions within 30 days of the procedure date will be reviewed for patient outcomes. Each of the pilot states participating in the project will be working with the medical community to develop statewide voluntary registries of outcomes for patients undergoing this procedure. In addition, strategies which capitalize on some of the techniques developed for improving outcomes of coronary artery bypass grafting, including the formation of study groups and comparative process analysis, will be tested.[31]

Summary

Carotid endarterectomy is a common procedure in Medicare beneficiaries and is associated with widely varying complication rates. The majority of procedures performed in Oklahoma were done on patients who had hemodynamically significant carotid stenosis documented in the medical record. This project demonstrated opportunities for improvement in the discharge medical management of patients undergoing carotid endarterectomy and potential cost savings in the utilization of intensive care unit services in appropriately selected patients. The results of this project and others are being utilized to develop a multistate project evaluating the outcomes of carotid endarterectomy in the Medicare population. J

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References

1. American Heart Association. *1993 Heart and Stroke Facts Statistics*. Dallas, Tex. American Heart Association, 1992
2. Eastcott HHG, Pickering GW, Roh CG. Reconstruction of internal carotid artery in a patient with intermittent attacks of hemiplegia. *Lancet* 1954;2:994-996.
3. Barnett HJM, Plum F, Walton JN. Carotid endarterectomy—an expression of concern. *Stroke* 1984;15:941-943.
4. Warlow C. Carotid endarterectomy: does it work? *Stroke* 1984;15:1068-1076.
5. Cebul RD, Whisnant JP. Carotid endarterectomy. *Ann Intern Med* 1989;111:660-670.
6. CASANOVA Study Group. Carotid surgery versus medical therapy in asymptomatic carotid stenosis. *Stroke* 1991;22:1229-1235.
7. European Carotid Surgery Trialists' Collaborative Group. European Carotid Surgery Trial: interim results for symptomatic patients with severe (70-99%) or with mild (0-29%) carotid stenosis. *Lancet* 1991;337:1235-1243.
8. North American Symptomatic Carotid Endarterectomy Trial Collaborators. Beneficial effect of carotid endarterectomy in symptomatic patients with high-grade carotid stenosis. *N Engl J Med* 1991;325:445-453.
9. Mayberg MR, Wilson SE, Yatsu F, et al, for the Veterans Affairs Cooperative Studies Program 309. Carotid endarterectomy and prevention of cerebral ischemia in symptomatic carotid stenosis. *JAMA* 1991;266:3289-3294.
10. Mayo Asymptomatic Carotid Endarterectomy Study Group. Results of a randomized controlled trial of carotid endarterectomy in asymptomatic carotid stenosis. *Mayo Clin Proc* 1992;67:513-518.
11. Hobson RW II, Weiss DG, Fields WS, et al, for the Veterans Affairs Cooperative Study Group. Efficacy of carotid endarterectomy for asymptomatic carotid stenosis. *N Engl J Med* 1993;328:221-227.
12. Executive Committee for the Asymptomatic Carotid Atherosclerosis Study. Endarterectomy for asymptomatic carotid artery stenosis. *JAMA* 1995;273:1421-1428.
13. Moore WS, Barnett HJM, Beebe HG, Bernstein EF, et al. Guidelines for carotid endarterectomy. A multidisciplinary consensus statement from the ad hoc committee, American Heart Association. *Stroke* 1995;26:188-201.
14. Rothwell PM, Slattery J, Warlow CP. A systematic comparison of the risks of stroke and death due to carotid endarterectomy for symptomatic and asymptomatic stenosis. *Stroke* 1996;27:266-269.
15. Rothwell PM, Slattery J, Warlow CP. A systematic review of the risks of stroke and death due to endarterectomy for symptomatic carotid stenosis. *Stroke* 1996;27:260-265.
16. The Asymptomatic Carotid Atherosclerosis Study Group. Study design for randomized prospective trial of carotid endarterectomy for asymptomatic atherosclerosis. *Stroke* 1989;20:844-849.
17. Moore WS, Vescera CL, Robertson JT, Baker WH, et al. Selection process for surgeons in the asymptomatic carotid atherosclerosis study. *Stroke* 1991;22:1353-1357.
18. Mayberg MR, Winn HR. Endarterectomy for asymptomatic carotid artery stenosis. Resolving the controversy (Editorial). *JAMA* 1995;273:1459-1461.
19. Dyken ML. Commentary. *ACP J Club* 1995;123:2-3.
20. Brott T, Toole JF. Medical compared with surgical treatment of asymptomatic carotid artery stenosis. *Ann Intern Med* 1995;123:720-722.
21. Barnett HJ, Meldrum HE, Eliasziw M. The dilemma of surgical treatment of patients with asymptomatic carotid disease. *Ann Intern Med* 1995;123:723-725.
22. Hertzer NR. A personal view: the asymptomatic carotid atherosclerosis study results—read the label carefully. *J Vasc Surg* 1996;23:167-171.
23. McCrory DC, Goldstein EB, Samsa GP, et al. Predicting complications of carotid endarterectomy. *Stroke* 1993;24:1285-1291.
24. Collier PE. Carotid endarterectomy: a safe cost-efficient approach. *J Vasc Surg* 1992;16:926-933.
25. O'Brien MS, Ricotta JJ. Conserving resources after carotid endarterectomy: selective use of the intensive care unit. *J Vasc Surg* 1991;14:796-802.
26. Lipsett PA, Tierney S, Gordon TA, Perler BA. Carotid endarterectomy—is intensive care unit care necessary? *J Vasc Surg* 1994;20:403-410.
27. Gibbs BF, Guzzetta VJ, Furmanski D. Cost-effective carotid endarterectomy in community practice. *Ann Vasc Surg* 1995;9:423-427.
28. Acheson J, Danta G, Hutchinson EC. Controlled trial of dipyridamole in cerebral vascular disease. *Br Med J* 1969;1:614-615.
29. The American-Canadian Co-Operative Study Group. Persantine Aspirin Trial in cerebral ischemia, II: endpoint results. *Stroke* 1985;16:406-415.
30. Green D, Miller V. The role of dipyridamole in the therapy of vascular disease. *Geriatrics* 1993;48:51-58.
31. O'Connor GT, Plume SK, Olmstead EM, Morton JR, et al. A regional intervention to improve the hospital mortality associated with coronary artery bypass graft surgery. *JAMA* 1996;275:841-846.

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The Merits of Varicella Vaccination for Varicella Non-Immune Health Care Workers

Clifford G. Wlodaver, MD, Tracy Privett, RN, Gail Livengood, RN

Immunity against varicella can be reliably established by history and, if negative, confirmed or refuted by serology. If non-immune, the merits of varicella vaccine for a health care worker (HCW) can be stated clearly: Protection from a disease which may be particularly severe in an adult, and evading the inconvenience (investigation time and possible work restriction) and cost of managing an exposure. This paper discusses implementation of a varicella immunity program for HCWs at Columbia Presbyterian Hospital in Oklahoma City.

Varicella commonly occurs in children and >90% of the population enters adulthood immune.[1] That it is usually benign in children partially explains the prolonged reluctance to license a vaccine which has been available for several years. However, a small percentage of adults are non-immune and thereby susceptible to infection that may be particularly severe. Furthermore, infected HCWs may unwittingly infect patients, leading to potentially serious consequences. Accordingly, the Committee on Infectious Diseases of the American Academy of Pediatrics and other expert groups have developed guidelines for managing the exposure of a susceptible HCW[2-6]: They should either be furloughed or excused from patient contact from days 10 to 21 after exposure to the index case; and for those who receive varicella-zoster immunoglobulin or are immunocompromised, this interval should be extended to 28 days. This policy, while well devised and necessary to prevent transmission in a hospital, results in considerable loss of time, inconvenience, and cost.

Licensure of varicella vaccine in March 1995 changes the scenario. We now have the power to immunize non-immune HCWs. However, present policies do not include specific recommendations for adults and HCWs. While the Centers for Disease Control and Prevention (CDC) and other agencies are formulating guidelines for HCWs—the American Academy of Pediatrics has already recommended vaccinating all children[7]—at Columbia Presbyterian Hospital we implemented a program to vaccinate all varicella non-immune HCWs, as described below.

Methods/Results

The first step was to establish whether an HCW was varicella susceptible or immune. There is a consensus that a clear history of chickenpox is a reliable indicator of immunity.[8] However, many persons cannot recall whether or not they had chickenpox or may have had a mild, subclinical-yet-immunizing infection. These can be detected serologically.

For the past several years our employees have been completing a health questionnaire which includes the question "Have you had chickenpox?"[7] New employees complete this before employment and those already employed completed it retrospectively.

From Columbia Presbyterian Hospital, Oklahoma City, Oklahoma
Direct correspondence to Clifford G. Wlodaver, MD, Department of Epidemiology, Columbia Presbyterian Hospital, 10th Street at Lincoln Boulevard, Oklahoma City, OK 73104.

Table 1. Results of Varicella Susceptibility Investigation

No. Investigated	1712
No. responding that could not recall or did not have chickenpox	118
No. no longer at hospital	37
No tested serologically	81
No seronegative	10
No. vaccinated	10

In June 1994, we began tabulating the results (Table 1). All of the 1,712 hospital employees were investigated regarding their history of previous varicella infection. One hundred eighteen employees responded that they either could not recall having had or have not had chickenpox. In March 1995, when the varicella vaccine was licensed, we began discussion and planning implementation with the Hospital Infection Control Committee and with the administration for a varicella immunity program. We found that of the 118 employees, 37 were no longer employed at our hospital. The remaining 81 employees were contacted by a letter (Fig. 1) which explained the importance of serologic testing and vaccination if seronegative. Included with the letter were instructions and a lab requisition for testing. We had 100% compliance, although this occasionally required follow-up with the employee and their supervisor.

Varicella titers were determined by an enzyme-linked immunosorbent assay (ELISA) for varicella virus IgG antibody in human serum using the Varicella Stat Test Kit (BioWhittaker, Inc., Walkersville, Maryland). A Predicted Index Value of >1.0 was used to define a protective antibody titer. This test has a sensitivity of 98.7%, specificity of 94.7%, and accuracy of 97.4% compared to the fluorescent antibody to membrane antigen assay, the gold standard. Ten of the employees were seronegative.

The second step was to vaccinate the non-immune employees. They were contacted by a phone call, queried regarding immune deficiency and pregnancy and would not have been vaccinated in either case. (One employee was pregnant. Vaccination was postponed until after she delivered.) Appointments for vaccination and a six-week booster were scheduled. All employees complied. Based on the studies reporting the vaccine's high efficacy, post-vaccine titers were not measured for our employees.

The program remains on-going, with new employees queried regarding previous chickenpox, tested serologically if negative by history, and vaccinated if non-immune.

Figure 1. Letter Sent to the Employees Who Stated They Had Not Had or Could Not Recall Having Had Chickenpox

Dear HCW:

The recent licensing of the chickenpox vaccine is relevant to health care workers as follows:

Those who have not had or cannot recall having had chickenpox may be susceptible to it. This could result in:

a. chickenpox, which in an adult can be severe;

b. transmission to others, including patients and other employees.

To determine if you can catch chickenpox, you should have a blood test. You need to report to the laboratory with the attached lab slip during the week of _____.

We will contact you when we receive your results. If the test is negative, indicating that you are susceptible to chickenpox, you will be required to receive the chickenpox vaccine and a booster dose 4-8 weeks later.

If you have any questions, please contact the Employee Health Nurse or the Epidemiology Nurse Specialist.

Sincerely,

Hospital Epidemiologist

Discussion

Management of exposure to varicella represents a particular problem for HCWs and hospital infection control programs. The non-immune adult may develop severe disease. Contact tracing and establishing who is immune and who is not is time-consuming, and furloughing those non-immune is inconvenient and costly.[6] Recent licensure of varicella vaccine has enabled us to overcome these problems.

Oshiro et al have targeted pediatric residents, a group at particularly high risk of exposure to varicella, for vaccination.[9] Grossman, in an accompanying editorial, concurs with our thoughts that all non-immune HCWs should be vaccinated.[8]

By history and serologic testing we detected 10 varicella-susceptible HCWs among 1,712 investigated at our hospital. This remarkably low prevalence of susceptibility falls below that reported in other adult populations,[1] raising the question of the reliability of our screening process. Yet history is felt to be a reliable mark of immunity, and the specificity of the ELISA we used is >90%, so our experience remains without a clear explanation.

We vaccinated the 10 susceptible employees. This benefits the HCWs themselves, protects our patients from exposure from a HCW, and avoids

the considerable inconvenience and cost when a non-immune employee is exposed.

However, one must acknowledge that questions of efficacy and safety may not yet be fully answered for this newly licensed vaccine which has been studied primarily in children, not adults. For example, are we correct in considering a vaccinated employee immune, or should we measure for a serologic response either after vaccination or at the time of an exposure? Will immunity be lifelong or will subsequent boosters be necessary? What is the risk that a newly vaccinated HCW could infect an immunocompromised patient? Could we inadvertently harm an employee who might be subclinically immune compromised? And are we correct in accepting the time-honored consensus that a history of chickenpox is a reliable indication of immunity, or should all HCWs be assessed by serology? Whereas these and surely other questions need to be asked, the potential benefits of varicella vaccine for non-immune HCWs nonetheless seem to outweigh its potential risks.

References

1. Shehab ZM, BrunellPA. Susceptibility of hospital personnel to varicella-zoster virus. *J Infect Dis* 1984;150;786.
2. American Academy of Pediatrics. Varicella-zoster infection. In: Peter G. ed. 1994 *Red Book: Report of the Committee on Infectious Diseases*. 23rd ed. Elk Grove Village, IL: American Academy of Pediatrics 1994:510-517.
3. Williams WW. Guideline for infection control in hospital personnel. *Am J Infect Control* 1984;12:34-44.
4. Sayre MR, Lucid EJ. Management of varicella-zoster-exposed hospital employees. *Ann Emerg Med* 1987;16;421-424.
5. Josephson A, Karanfil L, Gombert ME. Strategies for the management of varicella susceptible health care workers after a known exposure. *Infect Control Hosp Epidemiol* 1990;11:309-313.
6. Haiduven-Griffiths D, Fecko H. Varicella in hospital personnel: a challenge for the infection control practitioner. *Am J Infect Control* 1987:15:207-211.
7. Committee on Infectious Diseases (AAP). Recommendations for the use of live attenuated Varicella vaccine. *Pediatrics* 1995;95:791-796.
8. Grossman M. Varicella vaccine and health care workers. *Pediatr Infect Dis J* 1996;15:395-396.
9. Oshiro AC, Begue RE, Steele RW. Varicella disease and transmission in pediatric house officers. *Pediatr Infect Dis J* 1996;15:461-462.
10. Gurevich I, Jensen L, Kalter R, Cunha BA. Chickenpox in apparently "immune" hospital workers. *Infect Control* 1990;11:510-512.

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OAFP Starts Practice-based Resource/Research Network

James W. Mold, MD; Elaine D. Barton, BA

The Oklahoma Academy of Family Physicians, in collaboration with the University of Oklahoma Health Sciences Center, has established a primary care practice-based research network with thirteen family practice offices currently participating. The practices are connected to each other and to the Health Sciences Center campuses in Oklahoma City and Tulsa by electronic mail and have begun their first research project involving the diagnosis and treatment of brown recluse spider bites in the primary care setting.

Medical research conducted today, primarily in academic settings, is often less relevant to primary care practitioners and the healthcare needs of their patients than it could be. Since the majority of clinical research questions are asked by academicians and answered in tertiary care settings, it should be no surprise that community-based physicians find much of it irrelevant to their day to day clinical decisions. Practice-based research is an attempt to shift the process of discovery so that the person developing the question is a practitioner, drawing from concerns arising from his/her practice experience, and the study population is within a patient population similar to their own.[1]

The Oklahoma Practice-based Resource/Research Network (OKPRN) began taking form in October 1994 when the University of Oklahoma Department of Family and Preventive Medicine, Oklahoma City, received funding from the U.S. Department of Health and Human Services, Health Resources and Services Administration. James Mold, MD, is the project director. The governing body is the Oklahoma Academy of Family Physicians (OAFP) Research Committee and the OKPRN membership.

OKPRN currently includes thirteen family practice offices across Oklahoma connected by computerized e-mail and a mission to share resources, support decision-making in private practice, and conduct research. Members include the Weatherford Medical Center; Jo Ann Carpenter, MD, Ada; Santa Fe Physicians, Edmond; Ed Farrow, MD, Eufaula; Springs Family Practice, Enid; Kingfisher Regional Hospital Clinic; Family Medical Center, Lawton; Northwest Oklahoma Specialty Clinic, Woodward; LeFlore County Medical Center, Poteau; Canyon Park Family Physicians, Edmond; Family Medicine Specialists, Shawnee; Integris Baptist Care Center North, Oklahoma City; and Atoka Memorial Hospital Clinic.

The past year and a half has been spent (1) organizing the network, (2) installing the network of computers that link the sites to each other and the Internet, and (3) coordinating the first convocation of the group, held last May. The OU Provost's Office provided monies for Macintosh computers and software. Jim Cacy, PhD, project manager, accomplished the installations and provides ongoing computer support. The convocation, funded by the American Academy of Family Physicians (AAFP) and the OAFP, was an extremely successful event which gave members

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the opportunity to discuss ways to enhance the utility of the network and brainstorm potential research topics.

OKPRN, after generating many research ideas, has begun its first study involving the diagnosis and treatment of brown recluse spider bites in primary care settings. The idea for this topic came from a concurrence of the member physicians that in their practice experience, diagnosis of this venomous bite proves difficult, the treatment window narrow, and the treatment options available not predictably effective. The data collection is brief, on a mail-in card, taking very little physician time to complete. The protocol for this study is a test of OKPRN's goal to design research that will allow busy practitioners to participate while not disrupting their practices or inconveniencing their patients. The study was approved by the Institutional Review Board of the University of Oklahoma Health Sciences Center.

So far, the Brown Recluse Spider Bite Study has collected data from over 50 incidents of suspected bites since May 1. The Oklahoma Poison Control Center has also collected data on over 100 suspected bites from phone calls they have received since June 1. The findings of this study will be presented at the OAFP Midwinter Symposium, February 8, 1997, in Oklahoma City.

The network hopes to develop into a valuable resource family doctors can turn to with the kinds of questions that come up on an everyday basis in the practice setting. OKPRN can facilitate this inquiry by conducting literature searches, developing research protocols, identifying funding sources, and assisting with data collection, data analysis, and publication. The network will share results of the research conducted and eventually expand the OKPRN e-mail discussions to include more physicians in Oklahoma. By improving communication between practitioner groups, ideas will be generated which will, through discussion, exploration, and research, lead to improved clinical practices and ultimately to better health for Oklahomans.

For further information about OKPRN, please call James Mold, project director, at (405) 271-2370, fax 271-4125, or visit our website at <http://fammed.uokhsc.edu/okprn1.htm>. You may e-mail OKPRN members through this website. J

Reference

1. Nutting PA. Practice-based research networks: Building the infrastructure of primary care research. *J Fam Pract* 1996;42:199-203.

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PRAMSGRAM

Prenatal Weight Gain and Birth Weight Among Oklahoma Mothers

Background

Research over the last 30 years has indicated that, accounting for gestational age, pre-pregnancy weight and prenatal weight gain are the primary predictors of infant birth weight.

A study by Dawes[2] found a positive correlation between maternal weight gain and birth weight beginning at 28 weeks gestation. Bruce[3] saw an increase in birth weight among low pre-pregnancy weight women who experienced appropriate prenatal weight gain. Studies based on the Collaborative Perinatal Project (1959-1966), demonstrated that a progressive increase in both pre-pregnancy weight and prenatal weight gain paralleled an increase in birth weight.[1]

Although pre-pregnancy weight and weight gain act independently of each other in their impact on birth weight, together they become additive in their effects.[1,4,5] Data from the 1980 National Natality Survey indicated the percentage of low birth weight is highest among women with the lowest pre-pregnancy weights and lowest prenatal weight gains.[4] This study also found that, within categories of gestational weight gain, mean birth weights increased with increased body mass index (BMI). There were consistent differences between smokers and nonsmokers.[4]

In 1990, the National Academy of Sciences (NAS) recommended a prenatal weight gain range based on pre-pregnancy BMI.[6] Following these recommendations should help achieve the *Healthy People 2000* objective to increase to at least 85% the proportion of mothers who achieve the minimum recommended weight gain during pregnancy.

Methods

Data from the Oklahoma Pregnancy Risk Assessment Monitoring System (PRAMS) were used to examine pre-pregnancy weight, prenatal weight gain and their relationship to low (<2,500 grams) birth weight. In the PRAMS survey, women are asked three questions related to their pre-pregnancy weight and prenatal weight gain: (1) *How much did you weigh during the three months before you became pregnant? (2) How tall are you without shoes?* and (3) *How much weight did you gain during your pregnancy?* A woman's pre-pregnancy body mass index (BMI) was calculated by dividing her weight in kilograms by her height in meters squared; it was categorized into low BMI, normal BMI and high BMI. A woman's prenatal weight gain was calculated using the National Academy of Sciences (NAS) standard prenatal weight gain ranges adjusted for pre-pregnancy BMI (Table 1)[6] and classified as less than recom-

In Oklahoma

Approximately one-fourth (23.8%) of women are underweight (low BMI*) when they become pregnant and 20.6% are overweight (high BMI).

Close to one-in-five women (19.3%) gain less than the recommended amount of weight during pregnancy and two-in-five (39.4%) gain more than the recommended amount. Women who gain less than the recommended amount of weight during pregnancy, regardless of their pre-pregnancy weight, are at greater risk for low birth weight.

Underweight (low BMI) women gaining less than the recommended amount of weight experience the highest percentage of low birth weight infants (10.2%) compared to all other women.

Smokers who are underweight when pregnancy begins and who gain less than the recommended amount of weight are 2.6 times as likely to deliver a low birth weight infant as underweight smokers who gain more than the recommended amount of weight (16.9% vs. 6.5%).

* Body Mass Index (BMI) is defined as weight (kilograms)/height (meters) squared.

PRAMS is a population-based survey of Oklahoma women with a recent delivery. A stratified systematic sampling approach is used to select approximately 200 new mothers each month from the state's live birth registry. Up to three mailed questionnaires are used to solicit a response. Telephone interviews are attempted for non-respondents. Data for this report reflect live births occurring between April 1988 and March 1995. The overall response rate was 71%. All data represent state estimates.

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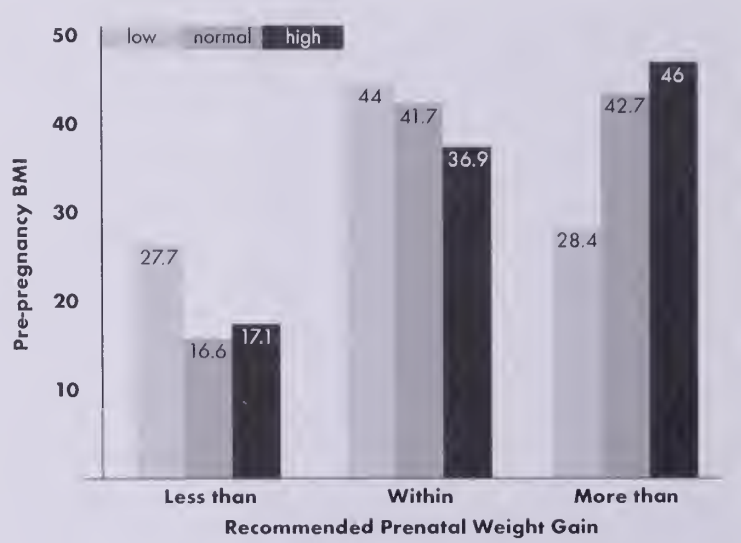
Table 1. Recommended Total Weight Gain Ranges for Pregnant Women by Pre-pregnancy BMI		
Pre-pregnancy weight-for-height		**Recommeded total weight gain in pounds (lbs)**
Low BMI	(BMI < 19.8)	28-40 lbs
Normal BMI	(BMI of 19.8 to 26.0)	25-35 lbs
High BMI	(BMI > 26.0 to 29.0)	15-25 lbs
Obese BMI	(BMI > 29.0)	at least 15 pounds

Table 2. Pre-pregnancy BMI and Prenatal Weight Gain		
Pre-pregnancy BMI	**%**	**95% CI**
low	23.8	22.4-25.2
normal	55.6	54.0-57.2
high	20.6	19.3-21.3
Prenatal Weight Gain		
less than recommended	19.3	17.9-20.7
within recommended	41.3	39.7-42.9
more than recommended	39.4	37.8-40.9

mended, within recommended, and more-than-recommended weight gain. As the NAS recommendations apply only to women whose gestational age is 40 weeks or greater, the ranges of prenatal weight gain for women with less than 40 weeks gestation were estimated.

For this study, PRAMS data from April 1988 through March 1995 were used to examine pre-pregnancy BMI [low, normal, and high (including obese)] and prenatal weighs gain (less than, within, and more than recommended). Only data from singleton births are used. Frequency distributions and 95% confidence intervals (95% CI) are presented. In addition to overall prevalence and demographic characteristics associated with various levels of prenatal weight gain, the relationship of these variables to low birth weight is also examined, including the potential impact of smoking during the prenatal period.

Figure 1. Prenatal Weight Gain by Pre-pregnancy BMI



Pre-pregnancy Weight and Weight Gain

Pre-pregnancy body mass index (BMI) and prenatal weight gain among Oklahoma mothers is presented in Table 2.

As pre-pregnancy weight and prenatal weight gain have both independent and cumulative effects on infant birth weight, it is important to examine them in relation to each other. Figure 1 presents those women gaining less than, within, and more than the recommended amount of weight by pre-pregnancy BMI. Women with low BMI were most likely to gain less than the recommended prenatal weight gain (27.7%) while women with high BMI were most likely to gain more than the recommended amount of weight (46.0%). Studies have found that the women at "extremes" of BMI and prenatal weight gain (i.e., low BMI/less than recommended and high BMI/ more than recommended) are at increased risk for poor birth weight outcome.[24]

In order to more fully describe those women more likely to be in either of these higher risk groups, Table 3 presents sociodemographic characteristics of women by pre-pregnancy BMI and weight gain. Among women with low BMI and less than recommended weight gain, 21.2% were under age 20 compared to 12.5% of those with high BMI/more than recommended weight gain and 10.9% of those with normal BMI/within recommended weight gain. These women (low BMI/ less than recommended weight gain) were also more likely to have less than 12 years of education, not be married, have inadequate prenatal care, and smoke during pregnancy than either of the other two BMI/weight gain groups. Women with high BMI/more than recommended weight gain were more likely to be African American or Native American, to receive public assistance, to use WIC during their pregnancy, and to use Medicaid funding for prenatal care and/or delivery services.

Low Birth Weight

Women who gain less than the recommended amount of weight, regardless of pre-pregnancy BMI status, are at increased risk for LBW outcome compared to women gaining within or more than the recommended amount of weight (Fig. 2). Women with low pre-pregnancy BMI who gained less than the recommended amount of weight experienced the highest percentage of LBW

infants (10.2%). LBW declined to 6% in women with low BMI who gained within the recommended amount of weight and to 4.7% in women with low BMI who gained more than the recommended amount of weight, thus reducing the risk for LBW by 2.2 times. Among women with low BMI, the direct relationship between low birth weight and increasing prenatal weight gain has also been found in other studies.1 Unlike women with low BMI, there is not a direct relationship between prenatal weight gain and risk for LBW among women with normal or high BMI. For these women, gaining less or more than the recommended amount of weight places them at increased risk for delivering a LBW infant.

PRAMS data on smoking, pre-pregnancy BMI, prenatal weight gain, and low birth weight were also examined. Table 4 presents low birth weight (LBW) by smoking status, pre-pregnancy BMI, and prenatal weight gain. PRAMS data showed smokers with a low pre-pregnancy BMI who gained less than the recommended weight range experienced the highest percentage of LBW at 16.9%, 5.3 times the rate (3.2%) among non-smokers with a normal pre-pregnancy BMI gaining within the recommended weight range. The percentage of low birth weight among smokers with low pre-pregnancy BMI decreased as the amount of weight gain increased; 16.9% for those with low BMI and less than recommended gain, 12.7% within recommended gain, and 6.5% for more than recommended gain.

Non-smokers in all pre-pregnancy BMI groups had lower percentages of low birth weight than smokers. Non-smoking women who gained at least the recommended amount of weight during pregnancy surpassed the *Healthy People 2000* goal of no more than 5% low birth weight infants.

Table 3. Chararcteristics of Women by Pre-pregnancy BMI and Weight Gain

Characteristic	Low BMI/Less Than Recommended Weight Gain		Normal BMI Within Recommended Wt. gain		High BMI/Over Recommended Weight Gain	
Age	%	95%CI	%	95%CI	%	95%CI
<20	21.2	15.5-26.9	10.9	8.5-13.3	12.5	8.7-16.2
20-24	35.5	29.2-41.8	30.0	26.9-33 1	33.9	29.0-38.8
25-29	24.2	18.7-29.7	31.6	28.7-34.5	29.2	24.7-33.7
30-34	15 2	10.9-19.5	19.2	16.7-21.8	17.5	14.0-21.0
35+	3 9	1.7-6.1	8.3	6.5-10.1	6.9	4.6-9.3
Race[1]						
White	84.7	79.9-89.7	85.1	82.5-87.6	75.5	71.0-80.0
African American	9 8	5.5-14.1	5.8	4.0-7.6	11.4	7.7-15.1
Native American	3 9	1 4-6.5	7.5	5.7-9 3	12.6	9.3-15.9
Education						
<12 years	21 7	15.6-27.8	13.2	10.5-15.9	14.8	10.8-18.8
12+ years	78.3	72.2-84.4	86.8	84.1-89.5	85.2	81.2-89.2
Marital Status[2]						
Married	56.6	50.1-63.1	71.6	68.4-74 8	66.2	61.2-71.2
Unmarried	43.4	36.9-49 9	28.4	25.2-31.6	33.8	28.8-38.8
Income Source						
Job/Business	72.9	66.8-79.0	78.7	75.9-81.7	70.1	65.2-71.2
Public Assistance	24.5	18.6-30.4	19.4	16.7-22.3	28.5	23.8-38.8
Other[3]	2.6	0.2-5.1	1.9	0.7-2.9	1.4	0.3-2.5
Wic[4]						
Yes	40.7	34 2-47.2	30.7	27.5-33.9	46.2	41.1-51.3
Kessner						
Adequate	72.7	66.1-78.3	77.6	74.6-80.8	73.9	69.2-78.6
Intermediate	21.3	15.8-26.8	19.1	16.2-22.0	23.2	18.9-27.8
Inadequate	6.5	3.0-10.0	3.3	0.9-4.7	2.9	1.1-4.7
Medicaid[5]						
Yes	35.1	28.8-41.4	27.0	23.8-30.2	39.9	34.8-45.0
Prenatal Smoking[6]						
Yes	26.2	20.5-31.9	19.5	16.8-22.2	21.6	17.2-26.0

1 "Other" race catgory not presented due to small cell size
2 Maritol status at conception
3 Cell size less than 20
4 On WIC during pregnancy
5 Use Medicaid to pay for prenatal care and delivery
6 Women who reported smoking in the last three months of pregnancy

Conclusions and Discussion

From these data, it appears that women at "extremes" of the pre-pregnancy weight (BMI) and prenatal weight gain (i.e., low BMI/under recommended weight gain and high BMI/more than recommended weight gain) are at higher risk for adverse birth outcome as indicated by birth weight.

The impact of prenatal weight gain on low birth weight among smokers is especially pronounced. Prenatal smokers may need additional nutritional counseling and/or assistance as well as smoking cessation advice.

The higher proportion of "traditional" high risk groups (e.g., less than 12 years of education, unmarried, younger, and other than white) in both the low BMI/less than recommended prenatal weight gain and high BMI/more than recommended prenatal weight gain (compared to normal BMI/within recommended prenatal weight gain) is suggestive of an interrelationship among variousso-ciodemographic characteristics that may influence behaviors and outcomes of women giving birth in Oklahoma. This interrelationship needs to be further explored through additional analyses.

Recommendations

A full-term healthy, normal weight infant is the desired outcome of pregnancy. Nutritional status of women, including pre-pregnancy weight and prenatal weight gain, along with other factors, influence that outcome. The *Healthy People 2000* goal to increase to at least 85% the proportion of mothers who achieve the minimum recommended weight gain during pregnancy will

Figure 2. Percent LBW by Prenatal Weight Gain and Pre-pregancy BMI

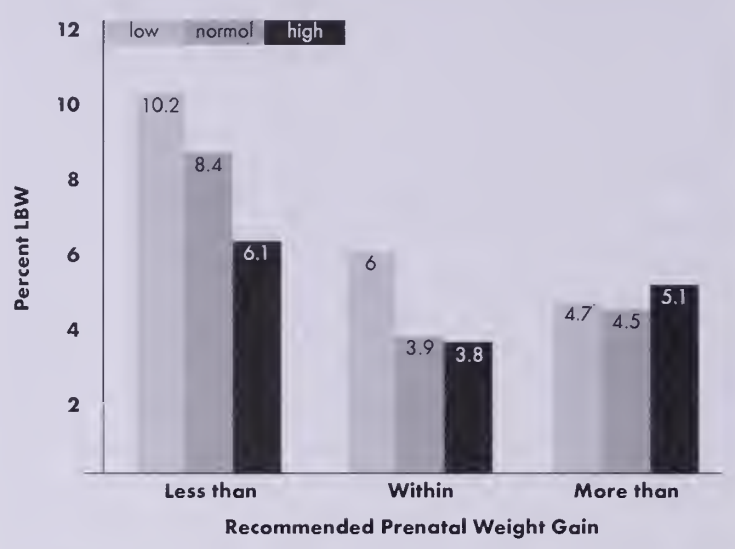


Table 4. Low Birth Weight by Smoking Status by BMI and Prenatal Weight Gain

BMI and Weight Gain	Smokers*		Non-Smokers	
Low BMI	%	95% CI	%	95 %CI
Less than recommended	16.9	12.2-21.6	7.7	6.1-9.3
Within recommended	12.7	9.4-16.0	4.2	3.4-5.0
More thon recommeded	6.5	14.3-8.7	3.6	2.8-4.4
Normal BMI				
Less than recommended	12.9	9.6-16.2	6.9	5.7-8.1
Within recommended	6.9	5.3-8.5	3.2	2.8-3.6
More thon recommded	8.9	7.1-10.7	3.3	2.9-3.7
High BMI				
Less thon recommended	7.7	4.0-11.4	5.4	3.8-7.0
Within recommended	4.6	2.6-6.6	3.4	2.6-4.2
More than recommended	7.5	5.2-9.9	4.5	3.7-5.3

help achieve that outcome. In order to continue progress in this are, the following recommendations are made:

- Continue to disseminate the National Academy of Sciences recommended prenatal weight gain ranges based on pre-pregnancy BMI to health care providers.
- Assess women of child bearing age for BMI, particularly those in family planning clinics, and refer those with low or high BMI to available preconception care programs for assistance in achieving ideal weight before pregnancy.
- Implement preconception care interventions for underweight and overweight women to assist them in achieving ideal weight before pregnancy.
- Take steps to ensure that health care providers recommend that women who smoke, particularly those with low pre-pregnancy Bml, are encouraged to gain at least the recommended amount of weight during pregnancy.
- Develop methods to ensure that health care providers refer the following to a dietitian/nutritionist:
  1. Any pregnant woman with low or high pre-pregnancy weight,
  2. Any woman, regardless of pre-pregnancy weight, who fails to gain the recommended amount of weight during pregnancy.
- Train health care providers to assess a pregnant woman's readiness to quit smoking and implement smoking cessation programs specifically designed for them and for women planning to become pregnant. ✝

References

1. Luke B. Nutritional influences on fetal growth. *Clinical Obstetrics and Gynecology.* 1994: 37(3): 538-549.
2. Dawes MG. Patterns of maternal weight in pregnancy. *British Journal of Obstetrics and Gynecology.* 1991; 98:195-201.
3. Bruce L. Nutrition intervention program in a prenatal clinic. *Obstetrics and Gynecology.* 1989; 74(3/1),310-312.
4. Luke B. Maternal-fetal nutrition. *Clinical Obstetrics and Gynecology.* 1994: 37111:93-109.
5. Eastman NJ, Jackson E. *Weight relationships in pregnancy.* 1. The bearing of maternal weight gain and pre-pregnancy weight on birth weight in full term pregnancies. *Obstetrics & Gynecology.* 1968: 23:1003-1025.
6. *Nutrition During Pregnancy.* Washington DC: National Academy of Sciences, 1990, p.10,181.

Acknowledgment

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Council on State Legislation and Regulation sets goals for '97

The Oklahoma State Medical Association Council on State Legislation and Regulation met on Tuesday, October 29, to discuss goals and objectives for the 1997 Legislative Session. They will be presented to the OSMA Board of Trustees for approval at its meeting on January 12, 1997.

Goals and objectives were established for the following categories:

Insurance and Regulation

Goal: Promote legislation that will protect and enhance patient access to appropriate quality care provided by medical doctors and doctors of osteopathy without the negative interference of insurance companies and regulatory entities.

Objective: Prevent any delay or denial of medically necessary patient treatment or diagnostic options while protecting the autonomy of the physician in medical decision-making.

General Health Issues

Goal: Promote legislation that will enhance the health and well-being of the citizens of Oklahoma.

Objective: Support public policy encouraging a widespread immunization program to protect Oklahoma's children and youth and other vulnerable populations from illness preventable by immunization; and support public policy and legislation to curb tobacco use.

Scope of Practice

Goal: Provide maximum protection of patients' health by assuring the highest quality of care.

Objective: Preserve and protect the autonomy of all medical doctors and doctors of osteopathy in providing the highest quality of patient care.

Tort Reform

Goal: Promote legislation that will promote fairness and efficiency at all levels of the civil justice system (District, Appellate, and Supreme Court), especially in the professional and product liability arena.

Objective: Preclude attempts to put physicians at direct or indirect disadvantage in medical malpractice lawsuits. Obviate professional liability tort laws that coerce physicians into pretrial settlements.

(A current moratorium on new tort reform legislation is supposed to last two more years.)

Workers Compensation

Goal: Review and monitor workers compensation legislation to determine the impact on physicians who render medical services in the workers compensation environment.

Objective: Prevent any change in the workers compensation laws that adversely affects the way a medical doctor or doctor of osteopathy delivers care to an injured worker and support changes that will improve care. J

New OSMA service: Centralized credentialing through OCVO

In an effort to expand the use of a uniform application and reduce the credentialing paperwork burden on physicians, OSMA has adopted the Oklahoma Centralized Verfication Organization as a new member service.

OSMA's primary focus is to gain acceptance of a single application to be used by all healthcare organizations. Physicians who complete the application for submission to a hospital can later use the same application to apply to a managed care organization. Content of the application can be reviewed and updated easily at later dates. At present, over 40 organizations statewide, including hospitals and managed care organizations, use the form.

Individually, healthcare organizations agree that the concept of a single, uniform application is a useful tool to reduce paperwork. OSMA will bring these organizations together for development and acceptance of a specific form. It is anticipated that a single initial application, and a single reappointment application, will be in use statewide by January 1998.

Content of the uniform applications must meet legal, accreditation, licensing, and insurance needs of the healthcare organizations. Although the forms may appear lengthy, the physician's time will be saved by not repeating information in various formats throughout the year. Familiarity with the forms will make updates easy to keep accurate and current.

OSMA's secondary focus is to encourage all healthcare organizations to contract with OCVO to provide the verifi-

(continued)

McAfee touts AMA's accreditation program during state visit

American Medical Association (AMA) Past President Robert E. McAfee, MD, a Maine surgeon, addressed the osma Board of Trustees on October 13, 1996. His topic was the American Medical Accreditation Program (AMAP).

In June, 1996, the ama Board of Trustees authorized the development of a comprehensive program for accrediting physicians which it hopes will be the standard for all public and private health plans. The program will have five basic components to assess a physician's performance on a periodic basis. A major goal is for such accreditation to be universally recognized by other organizations to meet their standards and replace multiple reviews of physicians. The AMA envisions partners among the state and county medical societies, specialty societies, other accreditation organizations, and, possibly, private sector technology companies. The program will be phased in over a multi-year period.

AMAP will have five basic components: credentials, per-

(continued on next page)

OCVO a reality *(continued)*

cations necessary for evaluation at their organization. When a physician applies to a contracted group, the application is submitted directly to OCVO. The applicant's information is entered into a confidential data base and a new form can be provided for the physician when he or she is applying to the next contracted organization at a later date. Although information may not have changed, the applicant must review it for accuracy and attest to its completeness as of the present date. The timelines for a "new signature" vary depending on the organization where the physician is applying.

OCVO will provide applications on the Internet at its Website, <http://www.ocvo.com>. Physicians will be able to download the blank form for completion and not have to wait for it to arrive in the mail. The form can also be provided to the physician on disk for completion on-line.

The Medical Society Credentials Verification Organizations of America (MSCVOA) is making an effort to develop a uniform credentials application to be used on a national level. Our statewide efforts also are being coordinated with the national organization. The mscvoa prototype may be presented as early as December, 1996.

OCVO initially was created by the Tulsa County Medical Society and has been widely accepted in eastern Oklahoma since 1988. Protection of the physician's information is a primary focus of the program. An applicant must sign a release form before any information is provided to a healthcare organization and the organization must be contracted with OCVO. The contract requires the organization to attest to their strict handling of the credentialing files in a confidential manner. No credentialing details are ever released to the public, any person or organization unless the physician authorized its release.

In addition to the use of single forms for initial and reappointment processes, two of the keys to centralized credentialing are for all healthcare organizations to contract with OCVO, and for the physician to make known to OCVO all of the healthcare organizations where he or she wishes to apply at one time. There are costs involved in "processing" a file, and one more organization at the same time does not add as much to the cost as it does to apply to another organization a few months later. Costs are often divided between the applicant and the organizations to which he or she is applying. Some healthcare organizations pay all of the costs involved and the physician will not be required to make a payment at all.

A credentialing verification organization (CVO) is a recommendation of the ama and is recognized by both the Joint Commission on Accreditation of Health Care Organizations (JCAHO) and the National Committee for Quality Assurance (NCQA). OCVO is certified by the ncqa to provide verification services for license to practice, hospital privileges, DEA/BNDD certificates, malpractice insurance, claims history, board certification/residency/medical school, national practitioner data bank query, and sanctions on licensure and Medicare/Medicaid. NCQA is an independent, nonprofit organization that certifies credentials verification organizations, and accredits managed care organizations. jcaho does not have a certification program for CVOs.

OSMA's third focus is to establish a state-wide reappointment program. OCVO's program allows the physician to complete one reappointment application every two years for all the healthcare organizations participating in the program. The one-year-old program has twenty-three participating organizations. The schedule is according to the physicians birth month, odd or even year. A physician born in October 1952 is scheduled for reappointment in Octobor 1996, October 1998, and so on. The paperwork flow begins several months ahead so that all verifications are available for board action during or prior to the physician's birth month. This alleviates the physician from having to complete the same information on different forms numerous times a year.

OSMA members are urged to make this program known to the healthcare organizations to which they belong. OSMA is available to work with those groups as well as to provide additional information to you. You may also contact OCVO for program details at (800) 340-6070 or (918) 743-0381; or e-mail at <ocvo@ionet.net>; 2021 S. Lewis, Suite 560, Tulsa, Oklahoma 74104-5723. OCVO's website also provides details at <http://www.ocvo.com>. The program manager is Michelle Seba. Ms. Seba's father was an Oklahoma City physician. She has a bachelor's degree in business administration from OSU, and is a certified medical staff coordinator (CMSC). OCVO's experienced staff of fifteen includes eight medical staff/credentialing coordinators, three of which are CMSCs, and two provider relations credentialing professionals. ■

McAfee *(continued)*

sonal qualifications (including self-assessment), environment of care (on-site-review), clinical performance, and patient care results.

Dr. McAfee indicated the ama will utilize rather than compete with existing credentialing services such as the Oklahoma Centralized Verification Organization.

Some osma Board members expressed skepticism about the need for such an effort and the scope of such a national project.

After considerable debate, the board passed a resolution that is be forwarded to the AMA for consideration by the AMA House of Delegates this month that states: "Resolved: That in locales where there are in operation physician-sponsored, owned, operated, or directed credential verification organizations which meet or exceed the standards established by the AMA, the AMA work with and promote the local organizations in their efforts to continue to provide credentialing services to their members which will meet or exceed the requirements to achieve accreditation of the individual physician by AMAP." J

Managed Care Task Force meets four times by end of December

The Managed Care Task Force assembled by Oklahoma State Senate President Pro Tempore Stratton Taylor met October 17 in Oklahoma City, October 31 in Tulsa, and November 15 in Oklahoma City. A fourth meeting was set for December 12.

At the first meeting, the group heard a series of presentations from representatives of regulatory agencies, insurance commission, American Association of Health Plans and other insurance and managed care entities before breaking into discussion groups. Concern was expressed that presentations have yet to be heard from patient and provider groups.

OSMA Task Force members present were Raymond L. Cornelison, MD, Midwest City; John C. Leatherman, MD, Woodward; and Eldon V. Gibson, MD, Shawnee. Substituting for Task Force members unable to attend were William A. Geffen, MD, Tulsa; and Philip Mosca, MD, Oklahoma City.

A public hearing followed the October 17th meeting of the Oklahoma State Senate's Managed Care Task Force.

Gary F. Strebel, MD, Oklahoma City ob/gyn, encouraged one of his patients, who had experienced difficulty in obtaining permission for a Caesarian section from her managed care company, to testify at the Managed Care Task Force public hearing. Dr. Strebel sat through the afternoon session, met his patient at the Capitol and escorted her through the process.

Oklahoma County Medical Society President John R. Bozalis, MD, and Oklahoma County OSMA Trustee Rebecca G. Tisdal, MD, also attended the public hearing.

On October 31, the Managed Care Task Force focused on

(continued on next page)

In Memoriam

1995

John Morgan Moore, MD ..... October 17
Edwin Patrick Shanks, MD ..... October 24
Paul Harvey Rempel, MD ..... October 31
David H. Copple, MD ..... November 8
Harold Gordon Muchmore, MD ..... November 14
James Kendall Boyd, MD ..... November 21
Hollis Eugene Hampton, Jr., MD ..... December 1
Herman Carter Moody, MD ..... December 8
Ethan Allen Walker, Jr., MD ..... December 8
John Russell Hubbard, MD ..... December 24

1996

Gerald LeRoy Beasley, Jr., MD ..... January 4
Kerri Dianne Williams, MD ..... January 9
Emanuel Nathan Lubin, MD ..... January 11
Ted Samuel Edward Lewis, MD ..... January 31
Elbert Henderson Shuller, MD ..... January 26
Earl I. Mulmed, MD ..... February 2
Ralph Richard Markland, MD ..... February 10
William Jackson Dowling, MD ..... February 13
Theodore Sherman Williams, MD ..... February 22
John Walker Johnson, Jr., MD ..... March 13
Joseph Jules Maril, MD ..... March 16
Carl Archie Barclay, MD ..... March 21
Thomas Dewey Howard, MD ..... March 21
Hobart Curtis Sanders, MD ..... March 22
Charles Eugene Green, MD ..... March 29
Jane Self, MD ..... March 30
Erma Ossip Johnson, MD ..... April 3
Marlene Marie Normand, MD ..... May 6
Henry Hubert Modrak, MD ..... May 17
James Polk Luton, MD ..... May 21
John Hartwell Dunn, MD ..... May 27
Logan Albert Spann, MD ..... June 7
Coye Willard McClure, MD ..... June 19
James Jackson Gable, Jr., MD ..... July 8
Thomas McNeil Story, MD ..... July 9
Herschel Jerome Rubin, MD ..... July 12
John Andrew Graham, MD ..... July 20
Robert Douglas Anspaugh, MD ..... July 21
Robert Moran Herlihy, MD ..... July 24
Ralph Carrol Denny, MD ..... July
William Allen Heflin, MD ..... August 3
Arnold Gordon Nelson, MD ..... August 26
Ollie Wayne Dehart, MD ..... August 28
Leslie Arvin Arneson ..... September 26
Bertram Edward Sear, MD ..... October 4
Walter Wicker, Jr., MD ..... October 11
Ellis Edwin Fair, MD ..... October 21
William Nathan Oxley, MD ..... October 22
Jesse Day Shipp, MD ..... October 28

Osteopathic board votes to endorse PLICO liability coverage

The Oklahoma Osteopathic Association (OOA) has endorsed the Physicians Liability Insurance Company (PLICO).

In a letter to PLICO dated November 8, OOA President Ronnie B. Martin, DO, wrote: "In their meeting November 7, 1996, the Board of Trustees of the Oklahoma Osteopathic Association endorsed the Physicians Liability Insurance Company as the preferred carrier for Oklahoma Doctors of Osteopathic Medicine (DOs) professional insurance.

"This endorsement resulted from the proposal made by PLICO representatives to the leadership of the OOA with the understanding that all DOs will have the same basic rate structure.

"The Board of Trustees of the OOA looks forward to a mutually beneficial relationship with the leadership and members of the OSMA and the Board of Directors of PLICO and appreciates the opportunity to help strengthen the future for MDs and DOs in Oklahoma."

Kenneth W. Whittington, MD; David M. Selby, MD; and Rod Frates were the chief negotiators for PLICO.

Coverage for DOs will be available as early as January 1, 1997.

Osteopathic physicians will be offered occurrence policies similar to policies offered to MDs. DO rates will be about 50% higher that MD rates. It is estimated that three to five years of actual experience will be necessary to reevaluate DO rates.

The PLICO Board of Directors accepted the DO endorsement at its meeting on November 10. The PLICO Board also agreed to explore the possibility of offering PLICO Health coverage to DOs.

PLICO to raise its professional liability rates

At its meeting on November 10, the PLICO Board of Directors voted unanimously to raise their professional liability rates. The board cited an aberrantly high loss experience for 1996. An unusually large number of pending claims came due this year. In addition, PLICO was forced to settle several claims for inordinately high amounts because they were deemed indefensible. The PLICO Claims Committee did not see any pattern in the claims with high payouts. Indeed, the Claims Committee noted most of the claims involved excellent physicians and difficult cases. The final reason for the rate increase stems from regulatory constraints of the Oklahoma State Insurance Commission. The rate increase will assure that PLICO will achieve its January 1, 1998, actuarial requirement.

PLICO assets have grown by $39 million since 1992 and the company is 40% stronger financially than it was in 1991. PLICO officials say the rate increase is in no way associated with the offer of insurance to DOs.

Task force *(continued)*

three aspects of information sharing: information that can be shared in the course of the patient-physician relationship; information consumers must have in order to make informed choices about plans; and information that plans and providers must share in order to improve the delivery of health care services.

OSMA and Task Force members present at this meeting were C. Wallace Hooser, MD, David Holloway, MD, and Rodney Huey, MD, Tulsa; John Jennings, MD, Broken Arrow; David Kingfisher, MD, Tahlequah; and Drs. Gibson and Leatherman.

The third meeting, on November 15, consisted of presentations by representatives of the National Commission on Quality Assurance and Oklahoma Foundation for Medical Quality.

The December 12 meeting is to feature a representative from the National Governors Association.

Nursing board discusses prescription authority

The Oklahoma Board of Nursing held a public hearing on October 23 to discuss proposed rules for the prescriptive authority gained by advanced practice nurses during the last session of the Oklahoma State Legislature.

The rules stipulate that the Board of Nursing will provide the Board of Pharmacy, all pharmacies, and all registered pharmacists with a formulary and a list of advanced practice nurses allowed to prescribe. The rules set out the application process, the academic pharmacological curriculum, and the requirement for a written statement from the supervising physician outlining the system for referrals, consultation, and collaboration between physician and nurse. Copies of the proposed rules may be obtained from the Oklahoma Board of Nursing, 2915 North Classen, Suite 524, Oklahoma City, OK, 73106, (405) 525-2076.

Award nominations still being sought

February 1, 1997, is the deadline for nominations for the Ayerst Wyeth Physician Award for Community Service and the Donald J. Blair Friend of Medicine Award. The service award goes to a physician who, in addition to his or her medical practice, has contributed significantly to the community. The Blair Award, formerly the Layman of the Year Award, is presented to a non-physician for his or her support of the art and science of medicine in Oklahoma. Winners are selected by the OSMA Board of Trustees at their February meeting each year and the awards are presented at the Annual Meeting of the OSMA House of Delegates in April. Nominations for both awards should be sent with supporting material to Robert J. Weedn, MD, chair of the OSMA Board of Trustees, c/o OSMA, 601 West I-44 Service Road, Oklahoma City, OK 73118.

Council warns against Jayhawk plan

The Dallas-based Jayhawk Medical Acceptance Corporation (JMAC) has been advertising a "patient financing" program for physicians who perform non-insurance or elective medical services or procedures. The program is called the TrueCare Patient Funding Plan. The plan requires a physician to pay $900 up front as a *non-refundable* enrollment fee. The plan contains some complex steps in order for the physician to achieve the end result of 85% of billed charges. The OSMA Council on Member Services recommends physicians proceed with caution when considering any type of "special financing" of medical services for their patients by having a CPA and/or attorney review all documents and make comparisons with their current collection and payment ratios.

Practice management consultants advise that most physicians who use traditional methods of payment, i.e., deposits, credit cards and a reasonably aggressive collection policy, normally realize an 85% to 90% collection ratio.

Physicians who have questions about this issue should contact OSMA Associate Director Lyle Kelsey or Doane Harrison at Harrison-Peck Associates, 405-329-3110. J

OSMA council says health of Oklahomans well below average national figures

In a late October meeting, the OSMA Council on Public and Mental Health heard a disturbing report on the state of the health of the citizens of Oklahoma. George Lynn Cross Professor Emeritus Gordon H. Deckert, MD, chair of the Oklahoma State Board of Health, provided the council with a synopsis of a "State of Oklahoma Report Card on Health," which the Oklahoma State Department of Health (OSDH) is publishing this month. Compared to the rest of the nation, Oklahoma has an excess burden of morbidity and mortality, Dr. Deckert said. Oklahoma's age-adjusted death rate is much higher than the national average, and the state ranks well above the national average in virtually all causes of death. Some 40% of Oklahoma adults lead inactive lifestyles, compared to 25% nationally. Oklahoma ranks 13th in the nation for coronary heart disease deaths, and sixth in the nation for coronary heart disease deaths in men. The state ranks tenth in lung cancer deaths, 15th in cervical cancer deaths, and 20th in colorectal deaths. Oklahoma's diabetes prevalence is significantly higher (150%) in adults ages 18 to 44 years old and in individuals older than 65 years of age. It ranks first in the nation in the prevalence of women between the ages of 35 and 64 who smoke.

In addition, some 26% of Oklahoma children are not adequately immunized. Twenty-five percent of Oklahoma children are not covered by insurance or Medicaid. While Oklahoma ranks low in the rate of fertility, it ranks high in the number of women less than 20 years of age who give birth.

In a recent report, National Center for Health Statistics ranks Oklahoma the highest in the nation in the incidence of white infant mortality.

Dr. Deckert said he will recommend the creation of an Oklahoma Coalition for Improving the Health of Oklahomans (OCIHO). The OSMA Council on Public and Mental Health commended Dr. Deckert and offered its support for the project. J

Journal asks reader input for Leaders, pics

Readers are invited to submit the names of candidates for the JOURNAL's ongoing Leaders in Medicine series. Last month's biography on Dr. Rayburne Goen of Oklahoma City was the 32nd in the series, which was begun in 1981. Suggestions should be directed to Susan Records, Director of Publications, OSMA, 601 West I-44 Service Road, Oklahoma City, OK 73118.

Readers also are reminded that *their* photographs are being used on the JOURNAL's covers and are encouraged to submit copies of their latest and best work for consideration. Both photos and slides will be considered, in either color or black and white. Vertical formats work best, and topics should be limited to either medicine or scenic Oklahoma. An award for the Best Cover Photo—a handsomely framed copy of the winning cover—is presented each spring at the OSMA Annual Meeting. J

Specialists' output vs. primary care doctors'

Specialists' production is increasing faster than primary care physicians,' but primary care physician income is increasing faster than specialists,' following a five-year trend. The findings are part of a recently released study, *Physician Compensation and Production Survey: 1996 Report Based on 1995 Data*, conducted and produced by Medical Group Management Association (MGMA).

As measured by gross charges, production by specialists increased by 5.59% from 1994 to 1995, while their median compensation rose by 1.77%. Production by primary care physicians increased by 0.57% in the same time period while their compensation rose 4.46%. Over the past five years (1991-95), primary care physicians' compensation increased 22.31% while specialists' compensation increased 6.55%. Though it appears specialists are working harder and making less, specialists' annual median compensation is still $215,932, compared to primary care's $133,322. J

Here's Our Agenda

It's simple. It's straightforward. And it represents the future of medicine. The American Medical Association presented to the Republican and Democratic leadership this agenda for the upcoming 105th Congress. Your AMA membership strengthens our voice in support of physicians and their patients. . . and will enhance our efforts to turn these goals into reality.

- **Patient Protections** Above all, preserve the ability of physicians to act as advocates for their individual patients. Do not allow insurers to "gag" physicians or withhold medically necessary treatments from their patients.
- **Medicare Reform** Make the Medicare program solvent. Expand patient choice of plans. Allow future growth rates that cover patients needs. Retain special protection for the vulnerable and elderly.
- **Medical Education and Research** Continue to support medical education and research so we can find cures for killers such as AIDS and cancer.
- **Public Health Problems** Expand prevention and treatment programs to combat AIDS, drug abuse, smoking and violence. These problems cost billions of dollars and millions of lives.
- **Liability Reform** Enact meaningful liability reform to ensure fair compensation to patients with legitimate claims while eliminating excessive malpractice awards that lead to defensive medicine.

Join or renew your membership in the AMA today — call 800 AMA-3211

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DEATHS

Ellis Edwin Fair, MD
1915 - 1996

Ellis E. Fair, MD, former Ponca City resident and founder of the Edwin Fair Community Mental Health Center, died October 21, 1996, at his home in Perry. Dr. Fair was born in Hodgen, Okla., and was graduated from the University of Oklahoma School of Medicine in 1941. He completed a three-year fellowship in surgery at the Mayo Clinic, where he worked on staff for one year. He then returned to Oklahoma City to establish a private practice. Dr. Fair entered the U.S. Air Force in 1953 and after leaving the service completed a three-year residency in psychiatry. He was named an OSMA Life Member in 1986.

Davis Dixon Kieffer, MD
1913 - 1911

The JOURNAL was informed recently that Life Member Davis D. Kieffer, MD, of Bartlesville died August 27, 1995. A specialist in occupational medicine, Dr. Kieffer earned his medical degree in 1938 at the Louisville (Ky.) School of Medicine. He served as a member of the AMA's Council on Occupational Health, and in 1972, as medical director of Phillips Petroleum Company, was named Physician of the Year by the President's Committee on Employment of the Handicapped. The award is co-sponsored by the AMA. Dr. Kieffer was named an OSMA Life Member in 1982.

William Nathan Oxley, MD
1918 - 1996

William N. Oxley, MD, longtime Guymon physician, died October 22 in Amarillo, Texas. He was a native of Cleo Springs, Okla., and a graduate of the University of Oklahoma School of Medicine. He established his family practice in Texhoma, Okla., in 1947, moving to Guymon in 1952. He later practiced in Oklahoma City for a short time before returning to Guymon in 1960, when he built the Oxley Clinic.

Cole Dilling Pittman, MD
1908 - 1995

The JOURNAL learned recently of the April 4, 1995, death of Dr. Cole D. Pittman. Dr. Pittman, an OSMA Life Member, had an otolaryngology and ophthalmology practice in Bartlesville for a number of years. He earned his medical degree at the University of Tennessee in 1933. Dr. Pittman served on active duty with the U.S. Army during World War II, attaining the rank of lieutenant colonel. His tours of duty took him to Alaska, South America, Africa, and the Middle East.

Jesse Day Shipp, MD
1910 - 1996

Jesse D. Shipp, MD, a 1933 graduate of the University of Oklahoma School of Medicine, died October 28, 1996, in Las Cruces, N.M. A retired surgeon, Dr. Shipp practiced in Tulsa for many years after completing an internship in St. Louis and residencies in both St. Louis and Tulsa. During World War II he served on active duty with the U.S. Army for almost four years.

Walter Wicker, Jr., MD
1919 - 1996

Walter Wicker, Jr., MD, a native of Gwen, Miss., died October 11, 1996, in Lawton. He was a 1943 graduate of the University of Arkansas School of Medicine and completed his internship at St. Anthony Hospital in Oklahoma City. He completed his residency in Oklahoma City as well and had a family practice in Lawton from 1947 to 1980. He enlisted in the U.S. Army in 1944, earning a Bronze Star before his discharge in 1946. From 1946 until his death, Dr. Wicker was a member of the Oklahoma State Board of Medical Examiners. He was a fellow of the American Academy of Family Physicians and was awarded a Life Membership in OSMA in 1989.

New Directions in Medicine

Annual Meeting of the OSMA House of Delegates

April 24-27, 1997

Southern Hills Marriott, Tulsa, Oklahoma

Index to 1996 Contents

Volume 89

Numbers 1-12

Index to Pages

1-40 ..... January
41-80 ..... February
81-122 ..... March
123-158 ..... April
159-190 ..... May
191-226 ..... June
227-260 ..... July
261-308 ..... August
309-344 ..... September
345-388 ..... October
389-416 ..... November
417-456 ..... December

The Author Index is in a separate section following the Subject Index.

SUBJECT INDEX

-A-

ALLIANCE, 79, 121, 157, 189, 343, 387, 415, 455

American Indian medicine
Ipecac, Indian turnip, and sassafras: a sampling of American Indian medicine. Haines JD, Jr., 326

antibiotics
Antibiotics and respiratory infections: do antibiotic prescriptions improve outcomes? Hamm RM, Hicks RJ, Bemben DA, 267

-C-

cancer
Surgical treatment of cancer of the pancreas in large community hospitals. Youmans R, McGee JM, Lee J, Malnar K, Bellegeuille C, Berry B, 16

cellulitis
Case report: scrotal cellulitis secondary to hot tub exposure. Forrest JB, Drake MA, 400

cerclage
Successful urgent cerclage in a quadruplet gestation. Haraway SD, Schipul AH Jr, Thomas JS, Rayburn WF, 211

Charcot-Marie-Tooth disease
Charcot-Marie-Tooth disease type 1A: a family study with microsatellites. Qu Y, Carpenter NJ, Whetsell L, Smith DP, Say B, 395

CLASSIFIEDS, 32, 71,112, 149, 183, 220, 255, 303, 336, 409, 450

cholecystectomy
Case of unexplained oxygen desaturation during laparoscopic cholecystectomy, A. Amayem A, Szafranski JS, Mansour BS, 129

COMMENTARY
Ethics and morality vs. managed care. Warner EG, 275
Human genome project and social consequences of widespread genetic testing, The: what we have to learn from breast cancer. McCloy L, 139
Mismanaged care. Haines JD Jr, 95
Perverse reactions to pertussis vaccine by government medical agencies. Sepkowitz S, 135

-D-

DEATHS
Anspaugh, Robert Douglas, MD, 302
Arneson, Leslie Arvin, MD, 409
Barclay, Carl Archie, MD, 182
Beasley, Gerald LeRoy, Jr., MD, 70
Boyd, James Kendall, MD, 31
Dehart, Ollie Wayne, MD, 382
Ellis Edwin Fair, MD, 445
Gable, James Jackson, Jr., MD, 302
Graham, John Andrew, MD, 335
Green, Charles Eugene, MD, 302
Hampton, Hollis Eugene, Jr., MD, 31
Heflin, William Allen, 382
Herlihy, Robert Moran, MD, 302
Howard, Thomas Dewey, 181
Hubbard, John Russell, MD, 71
Johnson Erma Ossip, 182
Johnson, John Walker, Jr., MD, 182
Kieffer, Davis Dixon, MD, 445
Lewis, Ted Samuel Edward, MD, 112
Lubin, Emanuel Nathan, MD, 71
Luton, James Polk, MD, 254
Maril, Joseph Jules, MD, 183
Markland, Ralph Richard, MD, 302
McClure, Coye Willard, MD, 302
Modrak, Henry Hubert, MD, 254
Moody, Herman Carter, MD, 31
Mulmed, Earl I, MD, 112
Nelson, Arnold Gordon, MD, 336
Normand, Marlene Marie, 254
Oxley, William Nathan, MD, 445
Pittman, Cole Dilling, MD, 445
Rubin, Herschel Jerome, MD, 302
Sanders, Hobart Curtis, MD, 255
Sears, Bertram Edward, MD, 409
Self, Jane, MD, 183
Shipp, Jesse Day, MD, 445
Shuller, Elbert Henderson, MD, 112
Spann, Logan Albert, MD, 255
Story, Thomas McNeil, MD, 303
Walker, Ethan Allen, Jr., MD, 71
Wicker, Walter, Jr., MD, 445
Williams, Kerri Dianne, MD, 71
Williams, Theodore Sherman, MD, 149

depression, postpartum
Depression after delivery among Oklahoma mothers. Maternal & Child Health Service, Oklahoma State Department of Health, 244

disaster support
Experience of psychiatric residents with disaster support, The: a descriptive report. Sansone RA, Roman EJ, 238

disc decompression
Laser assisted disc decompression: an alternataive treatment modality in the Medicare population. Casper GD, Hartman VL, Mullins LL, 11

-E-

EDITORIALS *see also* PRESIDENT'S PAGE *and* COMMENTARY
Beset by buzzwords. McIntyre RV, 161
Beyond sibling rivalry. McIntyre RV, 83
Chauvinism is alive. McIntyre RV, 229
Electronic LSD. McIntyre RV, 389
Leap year proposals. McIntyre RV, 347
On the editorial policy of the Journal. McIntyre RV, 3
Paean to PLICO. McIntyre RV, 125
Road more traveled, The. McIntyre RV, 419
Spot of tea, A. McIntyre RV, 311
To arms! To arms! McIntyre RV, 43
Too many MVAs. McIntyre RV, 263
Whose home health care? McIntyre RV, 193

endarterectomy
Carotid endarterectomy in Oklahoma Medicare beneficiaries: patient characteristics and outcomes. Bratzler DW, Oehlert WH, Murray CK, Bumpus LJ, Moore LL, Piatt DS, 423

esophageal blockage
Management of esophageal coins in children by bougienage: a case report. Haines JD Jr, 60

ethics
Ethics and morality vs. managed care. Warner EG, 275

-G-

genetic testing
Human genome project and social consequences of widespread genetic testing, The: what we have to learn from breast cancer. McCloy L, 139

Goen, Rayburne W.
Rayburne W. Goen, MD: Looking to the future. Green R, 363

Greer, Allen E.
Leaders in medicine: Allen E. Greer, MD. Green R, 97

-H-

Health Department
Acellular pertussis vaccines appear safe and effective in NIAID-sponsored trials, 147
Breast cancer and Oklahoma women, 375
Child bearing age women and folic acid—what's the connection? 110
Chlamydia trachomatis is too costly to ignore, 180
Communicable disease reporting, 407
Early discharge has effect on newborn screening, 68
Early influenza season expected, 334
Hepatitis B alert! 297
New findings about Oklahoma's first grade children include access to care, 253
OSDH nutrition program successful in reducing childhood anemia rate, 219
OSDH receives grant to assist pregnant women with HIV, AIDS, 299
Osteoporosis: it is a fact of life buth both preventable and treatable, 179
Questions about DTaP, 377
Recommendations for use of hepatitis A vaccine, 68
Tick-borne illness increasing in Oklahoma, 30

health maintenance organizations *see* **HMOs**

HMOs
Health maintenance organizations in Oklahoma. Brandt EN Jr, Broyles RW, Falcone D, 197

-I-

In memoriam, 32, 69, 112, 147, 183, 220, 255, 301, 335, 382, 441

Indians
Health care of Oklahoma Indians. Rhoades ER, Smith MHD, 165

Instructions for Authors, 38, 78, 120, 156, 188, 224, 258, 342

irritable bowel syndrome
Irritable bowel syndrome: a study to investigate the mechanism(s) or visceral hypersensitivity. Greenwood B, Rodriquez S, Decktor D, Maton RP, Robinson M, 47

-L-

Last Word, The, 40, 80, 122, 158, 190, 226, 260, 308, 344, 388, 416, 456

Letters
Doctor needs a doctor, The, 30
Epinephrine saves lives, 31
Eyesight and the elderly, 379
Zuhdi relates history of heart-lung machine, 300

lightning injury
MRI of lightning injury: early white matter changes associated with cerebral dysfunction. Milton WJ, O'Dell RH, Warner EG, 93

-M-

managed care
Mismanaged care. Haines JD Jr, 95

medical mission
Reflections on a medical mission to rural Guatemala. Valley MT, 242

migraine
Treatment of acute migraine with sumatriptan—response in 40 consecutive patients. Blumenthal HJ, Weisz MA, Burk S, 7

Muchmore, Harold Gordon, MD: In tribute, 69

-N-

News
AMA House adopts two Oklahoma resolutions, 27
AMPAC Campaign School set for spring, 406
American Medical Association says number of women physicians in U.S. has grown more than 425% since 1970, 333
Annual Meeting scrapbook, 250
Award nominations still being sought, 442
Certified athletic trainers discuss best type of ankle support, 28
Council on State Legislation and Regulation sets goals for '97, 439
Council warns against Jayhawk plan, 443
Cyberscience: OSMA hops aboard the Internet express with Tulsa debut, 215
David Harper to become 91st OSMA president on April 27, 143
Delegates make decision on 39 resolutions at Annual Meeting in Tulsa, 215
Delegates report on 1995 Interim Meeting of AMA House of Delegates, 63
Dr. Boyd Shook becomes president of ASIM, 405
Federation restructuring reflects changing medical environment, 27
Free post-bombing services continue in OKC, 146
Journal asks reader input for Leaders, pics, 443
Like taxes, directory corrections a fact of life, 149
Managed care task force meets in Tulsa, 405
Managed Care Task Force meets four times by end of December, 441
McAfee touts AMA's accreditation program during state visit, 440
New OSMA service: Centralized credentialing through OCVO, 439
Nursing board discusses prescription authority, 442
Official ballot count posted for elections, 218
Optometrists lose their photorefractive keratectomy suit in Idaho, 405
OSMA Board of Trustees holds July meeting, 295
OSMA board seeks award nominees by Feb. 1, 406
OSMA council says health of Oklahomans well below average national figures, 443
OSMA leaders trek to Washington for conference and delegation talks, 143
Osteopathic board votes to endorse PLICO liability coverage, 442
OUHSC-based sexual assault response team ends first year, 144
PLICO issues videotaping guidelines for hospitals and physicians, 333
PLICO to raise its professional liability rates, 442
Report of the president to the OSMA House of Delegates, 249
Report of the president-elect to the OSMA House of Delegates, 250
Resident garners AMA award, 145
Resolutions and elections fill Annual Meeting agenda, 107
Risk of "Little League Elbow" can be reduced, trainers say, 28
Specialists' output vs. primary care doctors', 443
State delegation reports from AMA, 295
Subacute care responsibilities set by AMA, 108
Trustees approve new Journal publication policy at January meeting, 66
Trustees name new OSMA Life Members, 216
UCLA consensus conference issues allergy treatment guidelines for sneezin' season, 148

-O-

Oklahoma Academy of Family Physicians
OAFP starts practice-based resource/research network. Mold JW, Barton ED, 433

OCVO *see* **Oklahoma Centralized Verification Organization**

Oklahoma Centralized Verification Organization (OCVO)
Oklahoma centralized verification organization: a way out of the paperwork nightmare. Seba M, 177

Oklahoma State Department of Health *see* **Health Department**

overweight
Prevalence of overweight and associated factors among Oklahomans. Hann N, Asghar A, 353

-P-

pertussis
Perverse reactions to pertussis vaccine by government medical agencies. Sepkowitz S, 135

pneumonia
Community-acquired pneumonia in Oklahoma: characteristics and management of hospitalized Medicare beneficiaries. Bratzler DW, Murray CK, Bumpus LJ, Moore LL, 87

prenatal care
Pramsgram: initiation of prenatal care among women having a live birth in Oklahoma. Maternal and Child Health Service, Oklahoma State Department of Health, 328

President's Page
Doctor of the Day—a service and an opportunity. Harper DL, 348
Healing process, The. Harper DL, 163
Importance of tradition, The—the importance of change. Harper DL, 127
Integrity and ethics in medicine. Harper DL, 421
Mission and the future of the OSMA, The. Harper DL, 389
Moral crisis. Long LL, 5
One on one. Harper DL, 265
PLICO—our insurance company. Harper DL, 195
Political participation. Harper DL, 313
Stay informed. Harper DL, 231
Thanks, hope, and other things. Long LL, 85
Tribute to Mike, A. Long LL, 45

protocols, clinical
Standard clinical protocols are important to your survival. Oehlert WH, 131

pyloric stenosis
Endoscopic diagnosis of pyloric stenosis, The. Donovan GK, Yazdi AJ, 58

-R-

rhinoplastic surgery
Reducing the risk of cartilaginous supratip deformities. Gilbert SE, 51

-S-

scaphoid
Fractures and nonunions of the scaphoid. Rayan GM, 315

Scientific
Antibiotics and respiratory infections: do antibiotic prescriptions improve outcomes? Hamm RM, Hicks RJ, Bemben DA, 267
Cardiac transplantation in patients aged 60 years or older. Mischke L, Sisson S, Cooper DKC, Zuhdi N, 22
Carotid endarterectomy in Oklahoma Medicare beneficiaries: patient characteristics and outcomes. Bratzler DW, Oehlert WH, Murray CK, Bumpus LJ, Moore LL, Piatt DS, 423
Case of unexplained oxygen desaturation during laparoscopic cholecystectomy, A. Amayem A, Szafranski JS, Mansour BS, 129
Case report: locally acquired trichinosis in an immigrant from Southeast Asia. Graves T, Harkess J, Crutcher JM, 402
Case report: scrotal cellulitis secondary to hot tub exposure. Forrest JB, Drake MA, 400
Charcot-Marie-Tooth disease type 1A: a family study with microsatellites. Qu Y, Carpenter NJ, Whetsell L, Smith DP, Say B, 395
Community-acquired pneumonia in Oklahoma: characteristics and management of hospitalized Medicare beneficiaries. Bratzler DW, Murray CK, Bumpus LJ, Moore LL, 87
Endoscopic diagnosis of pyloric stenosis, The. Donovan GK, Yazdi AJ, 58
Environmental tobacco smoke exposure and gastroesophageal reflux in infants with apparent life-threatening events. Alaswad B, Toubas PL, Grunow JE, 233
Fractures and nonunions of the scaphoid. Rayan GM, 315
Health care of Oklahoma Indians. Rhoades ER, Smith MHD, 165
Irritable bowel syndrome: a study to investigate the mechanism(s) or visceral hypersensitivity. Greenwood B, Rodriquez S, Decktor D, Maton RP, Robinson M, 47
Laser assisted disc decompression: an alternataive treatment modality in the Medicare population. Casper GD, Hartman VL, Mullins LL, 11
Management of esophageal coins in children by bougienage: a case report. Haines JD Jr, 60
Merits of varicella vaccination for varicella non-immune health care workers, The. Wlodaver CG, Privett T, Livengood G, 430
MRI of lightning injury: early white matter changes associated with cerebral dysfunction. Milton WJ, O'Dell RH, Warner EG, 93
Overwhelming sepsis with *Vibrio vulnificus:* a coastal pathogen in Oklahoma. Rotz, LD, Buckley DP, Fine DP, 349
Prevalence of overweight and associated factors among Oklahomans. Hann N, Asghar A, 353
Reducing the risk of cartilaginous supratip deformities. Gilbert SE, 51
Scimitar syndrome, The: demonstration with magnetic resonance imagining. Ramseyer L, Mansfield W, Simon W, 324
Successful urgent cerclage in a quadruplet gestation. Haraway SD, Schipul AH Jr, Thomas JS, Rayburn WF, 211
Surgical treatment of cancer of the pancreas in large community hospitals. Youmans R, McGee JM, Lee J, Malnar K, Bellegeuille C, Berry B, 16
Treatment of acute migraine with sumatriptan—response in 40 consecutive patients. Blumenthal HJ, Weisz MA, Burk S, 7

scimitar syndrome
Scimitar syndrome, The: demonstration with magnetic resonance imagining. Ramseyer L, Mansfield W, Simon W, 324

SPECIAL
Depression after delivery among Oklahoma mothers. Maternal & Child Health Service, Oklahoma State Department of Health, 244
Experience of psychiatric residents with disaster support, The: a descriptive report. Sansone RA, Roman EJ, 238
G. Rainey Williams: the importance of doing it right. Green R, 201
Health maintenance organizations in Oklahoma. Brandt EN Jr, Broyles RW, Falcone D, 197
Ipecac, Indian turnip, and sassafras: a sampling of American Indian medicine. Haines JD, Jr., 326
Leaders in medicine: Allen E. Greer, MD. Green R, 97
OAFP starts practice-based resource/research network. Mold JW, Barton ED, 433
Oklahoma centralized verification organization: a way out of the paperwork nightmare. Seba M, 177
Physician-assisted suicide. Report 59 of the AMA Board of Trustees (A-96), 281
Pramsgram: initiation of prenatal care among women having a live birth in Oklahoma. Maternal and Child Health Service, Oklahoma State Department of Health, 328
Pramsgram: prenatal weight gain and birth weight among Oklahoma mothers, Maternal and Child Health Service, Oklahoma State Department of Health, 435
Rayburne W. Goen, MD: Looking to the future. Green R, 363
Reflections on a medical mission to rural Guatemala. Valley MT, 242
Standard clinical protocols are important to your survival. Oehlert WH, 131

suicide
Physician-assisted suicide. Report 59 of the AMA Board of Trustees (A-96), 281

-T-

tobacco smoke
Environmental tobacco smoke exposure and gastroesophageal reflux in infants with apparent life-threatening events. Alaswad B, Toubas PL, Grunow JE, 233

transplantation
Cardiac transplantation in patients aged 60 years or older. Mischke L, Sisson S, Cooper DKC, Zuhdi N, 22

trichinosis
Case report: locally acquired trichinosis in an immigrant from Southeast Asia. Graves T, Harkess J, Crutcher JM, 402

-V-

varicella vaccination
Merits of varicella vaccination for varicella non-immune health care workers, The. Wlodaver CG, Privett T, Livengood G, 430

Vibrio vulnificus
Overwhelming sepsis with *Vibrio vulnificus:* a coastal pathogen in Oklahoma. Rotz, LD, Buckley DP, Fine DP, 349

-W-

Williams, G. Rainey
G. Rainey Williams: the importance of doing it right. Green R, 201

AUTHOR INDEX

Alaswad B, Toubas PL, Grunow JE. Environmental tobacco smoke exposure and gastroesophageal reflux in infants with apparent life-threatening events, 233
AMA Board of Trustees (A-96), Report 59 of the. Physician-assisted suicide, 281
Amayem A, Szafranski JS, Mansour BS. Case of unexplained oxygen desaturation during laparoscopic cholecystectomy, A, 129
Asghar A *see* **Hann N**
Barton ED *see* **Mold JW**
Bellegeuille C *see* **Youmans R**
Bemben DA *see* **Hamm RM**
Berry B *see* **Youmans R**
Blumenthal HJ, Weisz MA, Burk S. Treatment of acute migraine with sumatriptan—response in 40 consecutive patients, 7
Brandt EN Jr, Broyles RW, Falcone D. Health maintenance organizations in Oklahoma, 197
Bratzler DW, Murray CK, Bumpus LJ, Moore LL. Community-acquired pneumonia in Oklahoma: characteristics and management of hospitalized Medicare beneficiaries, 87
Bratzler DW, Oehlert WH, Murray CK, Bumpus LJ, Moore LL, Piatt DS. Carotid endarterectomy in Oklahoma Medicare beneficiaries: patient characteristics and outcomes, 423
Broyles RW *see* **Brandt EN Jr**
Buckley DP *see* **Rotz LD**
Bumpus LJ *see* **Bratzler DW**
Bumpus LJ *see* **Bratzler DW**
Burk S *see* **Blumenthal HJ**
Carpenter NJ *see* **Qu Y**
Casper GD, Hartman VL, Mullins LL. Laser assisted disc decompression: an alternataive treatment modality in the Medicare population, 11
Cooper DKC *see* **Mischke L**
Crutcher JM *see* **Graves T**
Decktor D *see* **Greenwood B**
Donovan GK, Yazdi AJ. Endoscopic diagnosis of pyloric stenosis, The, 58
Drake MA *see* **Forrest JB**
Falcone D *see* **Brandt EN Jr**
Fine DP *see* **Rotz LD**
Forrest JB, Drake MA. Case report: scrotal cellulitis secondary to hot tub exposure, 400
Gilbert SE. Reducing the risk of cartilaginous supratip deformities, 51
Graves T, Harkess J, Crutcher JM. Case report: locally acquired trichinosis in an immigrant from Southeast Asia, 402
Green R. G. Rainey Williams, MD: the importance of doing it right, 201
Green R. Leaders in medicine: Allen E. Greer, MD, 97
Green R. Rayburne W. Goen, MD: Looking to the future, 363
Greenwood B, Rodriquez S, Decktor D, Maton RP, Robinson M. Irritable bowel syndrome: a study to investigate the mechanism(s) or visceral hypersensitivity, 47
Grunow JE *see* **Alaswad B**
Haines JD, Jr. Ipecac, Indian turnip, and sassafras, a sampling of American Indian medicine, 326
Haines JD Jr. Management of esophageal coins in children by bougienage: a case report, 60
Haines JD Jr. Mismanaged care, 95
Hamm RM, Hicks RJ, Bemben DA. Antibiotics and respiratory infections: do antibiotic prescriptions improve outcomes? 267
Hann N, Asghar A. Prevalence of overweight and associated factors among Oklahomans, 353
Haraway SD, Schipul AH Jr, Thomas JS, Rayburn WF. Successful urgent cerclage in a quadruplet gestation, 211
Harkess J *see* **Graves T**
Hartman VL *see* **Casper GD**
Hicks RJ *see* **Hamm RM**
Lee J *see* **Youmans R**
Livengood G *see* **Wlodaver CG**
Malnar K *see* **Youmans R**
Mansfield W *see* **Ramseyer L**
Mansour BS *see* **Amayem A**
Maternal & Child Health Service, Oklahoma State Department of Health. Depression after delivery among Oklahoma mothers, 244
Maternal and Child Health Service, Oklahoma State Department of Health. Pramsgram: initiation of prenatal care among women having a live birth in Oklahoma, 328
Maternal and Child Health Service, Oklahoma State Department of Health. Pramsgram: prenatal weight gain and birth weight among Oklahoma mothers, 435
Maton RP *see* **Greenwood B**
McCloy L. Human genome project and social consequences of widespread genetic testing, The: what we have to learn from breast cancer, 139
McGee JM *see* **Youmans R**
Milton WJ, O'Dell RH, Warner EG. MRI of lightning injury: early white matter changes associated with cerebral dysfunction, 93
Mischke L, Sisson S, Cooper DKC, Zuhdi N. Cardiac transplantation in patients aged 60 years or older, 22
Mold JW, Barton ED. OAFP starts practice-based resource/research network, 433
Moore LL *see* **Bratzler DW**
Moore LL *see* **Bratzler DW**
Mullins LL *see* **Casper GD**
Murray CK *see* **Bratzler DW**
Murray CK *see* **Bratzler DW**
Oehlert WH *see* **Bratzler DW**
Oehlert WH. Standard clinical protocols are important to your survival, 131
O'Dell RH *see* **Milton WJ**
Privett T *see* **Wlodaver CG**
Qu Y, Carpenter NJ, Whetsell L, Smith DP, Say B. Charcot-Marie-Tooth disease type 1A: a family study with microsatellites, 395
Ramseyer L, Mansfield W, Simon W. Scimitar syndrome, The: demonstration with magnetic resonance imaging, 324
Rayan GM. Fractures and nonunions of the scaphoid, 315
Rayburn WF *see* **Haraway SD**
Rhoades ER, Smith MHD. Health care of Oklahoma Indians, 165
Robinson M *see* **Greenwood B**
Rodriguez S *see* **Greenwood B**
Roman EJ *see* **Sansone RA**
Rotz LD, Buckley DP, Fine DP. Overwhelming sepsis with *Vibrio vulnificus:* a coastal pathogen in Oklahoma, 349
Sansone RA, Roman EJ. Experience of psychiatric residents with disaster support, The: a descriptive report, 238
Say B *see* **Qu Y**
Schipul AH Jr *see* **Haraway SD**
Seba M. Oklahoma centralized verification organization: a way out of the paperwork nightmare, 177
Sepkowitz S. Perverse reactions to pertussis vaccine by government medical agencies, 135
Simon W *see* **Ramseyer L**
Sisson S *see* **Mischke L**
Smith DP *see* **Qu Y**
Smith MHD *see* **Rhoades ER**
Szafranski JS *see* **Amayem A**
Thomas JS *see* **Haraway SD**
Toubas PL *see* **Alaswad B**
Valley MT. Reflections on a medical mission to rural Guatemala, 242
Warner EG *see* **Milton WJ**
Warner EG. Ethics and morality vs. managed care, 275
Weisz MA *see* **Blumentahl HJ**
Whetsell L *see* **Qu Y**
Wlodaver CG, Privett T, Livengood G. Merits of varicella vaccination for varicella non-immune health care workers, The, 430
Yazdi AJ *see* **Donovan GK**
Youmans R, McGee JM, Lee J, Malnar K, Bellegeuille C, Berry B. Surgical treatment of cancer of the pancreas in large community hospitals, 16
Zuhdi N *see* **Mischke L**

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I heard the bells on Christmas Day
Their old, familiar carols play,
And wild and sweet
The word repeat
Of peace on earth, good-will to men!
Henry Wadsworth Longfellow

THE LAST WORD

■ **With the recent resignation of two long-time staff members,** OSMA has lost more than two decades of experience and dedication.

Debbie Thurmond, who had been with the OSMA for 13 years and was the senior administrative assistant on staff, resigned to accept a similar administrative position with an Edmond church. During her tenure at OSMA, Ms. Thurmond worked as assistant to OSMA Legal Counsel Ed Kelsay and later as assistant to Executive Director Mike Sulzycki. Much of her work for Mr. Kelsay entailed coordination of PLICO loss prevention seminars. Later she coordinated OSMA's CME programs.

Bobbie Brown, administrative assistant and staff liaison to OSMA lobbyists for eight years and also treasurer of OMPAC, recently submitted her resignation as well. Prior to joining OSMA, Ms. Brown worked at the State Capitol. She will be returning there this month, having accepted a post as assistant to newly elected Tulsa Republican State Senator Jim Williamson.

■ **Oklahoma primary care physicians are urged to complete** the "Oklahoma Child Health Primary Care Assessment" Provider Survey they should have received recently. Admittedly long, the survey nonetheless will provide valuable information to the Oklahoma State Department of Health. Physicians who need an additional copy of the provider survey form should call Edd D. Rhoades, Jr., MD, at OSDH, 405-271-4477.

■ **The health care legislation recently signed by President** Clinton contains strong sanctions for physicians involved in false home health certifications. The legislation penalizes physicians who certify that an individual is eligible for home health services if that physician has knowledge that the individual does not qualify for home care. Currently a Medicare patient cannot receive home care benefits without physician certification of the need for skilled care and the patient's homebound status. The legislation penalizes physicians making invalid certifications the greater of $5,000.00 or three times the amount of Medicare payments made on behalf of the ineligible patients. Home care is the most rapidly expanding element of the Medicare program.

■ **The Oklahoma Medical Political Action Committee (OMPAC)** was pleased with last month's election results. OMPAC and the American Medical Political Action Committee (AMPAC) supported all seven winning members of the Oklahoma Congressional Delegation: Senator Inhofe and Representatives Coburn, Lucas, Watkins, Istook, Largent, and Watts. In state races, OMPAC supported 57 winning candidates and only four who lost. The OMPAC Board of Directors took an objective, non-partisan approach in deciding which candidates to support. Incumbents' voting records were carefully analyzed to determine the extent of support on issues of importance to physicians and their patients. Non-incumbents were sent questionnaires to determine their stands on medical issues. The questionnaires were analyzed and research was done to determine if a candidate had a reasonable chance of winning. Party affiliation was not a factor in OMPAC's decisions.

■ **The OSMA office has received numerous calls recently** asking if a new state law requires those who assist physicians in their offices be registered. There is *no* state or federal law that required medical assistants to be registered, certified, or licensed by November 1, 1996. The law that went into effect last month applies only to several categories of nurses and specific unlicensed individuals who assist *nurses* and work in acute care settings. The law does not apply to medical assistants working in doctors' offices or clinics. Should any "clean up" language in SB 537 be necessary, the OSMA Council on State Legislation and Regulation is prepared to act.

■ **John G. Campbell, MD, Tulsa, is among 55 otolaryngologists** to receive the American Academy of Otolaryngology–Head and Neck Surgery's prestigious Honor Award. The award was presented earlier this fall at the 100th Annual Meeting of the American Academy of Otolaryngology–Head and Neck Surgery Foundation. Founded in 1934, the award recognizes those who have contributed service to the academy with presentation of an instruction course or scientific paper or participation on a continuing education committee or faculty. With the inclusion of the 1996 recipients, more than 235 academy members have now received the Honor Award. The academy has a membership of approximately 10,000 physicians nationwide.

■ **The Oklahoma County Medical Society (OCMS) and** Tulsa County Medical Society (TCMS) recently elected officers who will take office next month.

In Oklahoma County, J. Christopher Carey, MD, will succeed John R. Bozalis, MD, as president. Robert L. Wilson, MD, is president-elect, Stephen K. Cagle, MD, is vice-president, and Vadakepat Ramgopal, MD, is secretary-treasurer.

In Tulsa County, Michael B. Clendenin, MD, succeeds W. Frank Phelps, MD, as president. William A. Geffen, MD, is president-elect, and C. Wallace Hooser, MD, is vice-president. The TCMS board will elect a secretary-treasurer. ■

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